OL 82 NO. 2

c627

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Successful safety training comes from work and planning 76
Are you up-to-date on the latest in package dyeing? 91

textile bulletin

FEBRUARY • 1956

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LE BULLETIN is published
ly by Clark Publishing
218 West Morehead St.,
tte 2, N.C. Subscription
per year in advance, $3
ee years. Entered as
d-class mail matter
2, 1911, at Postoffice,
te, N. C., under Act
gress, March 2, 1897.

NBP

NON-FLUID OIL
TRADE MARK REGISTERED

WILL STOP CLOTH SPOILAGE

Unchecked loss from oil spots cuts deeply into production. Seven out of ten mills eliminate this loss by using NON-FLUID OIL—the drip-less, waste-less lubricant.

Saving its own cost many times over by preventing oil spot damage—NON-FLUID OIL also saves on lubricant and application cost—by outlasting ordinary oil 3 to 5 times—saving on maintenance as well.

We recommend Grade A-#00000 NON-FLUID OIL for general lubrication of looms because it is made for this specific purpose. Write for Bulletin T-20 and free testing sample of NON-FLUID OIL.

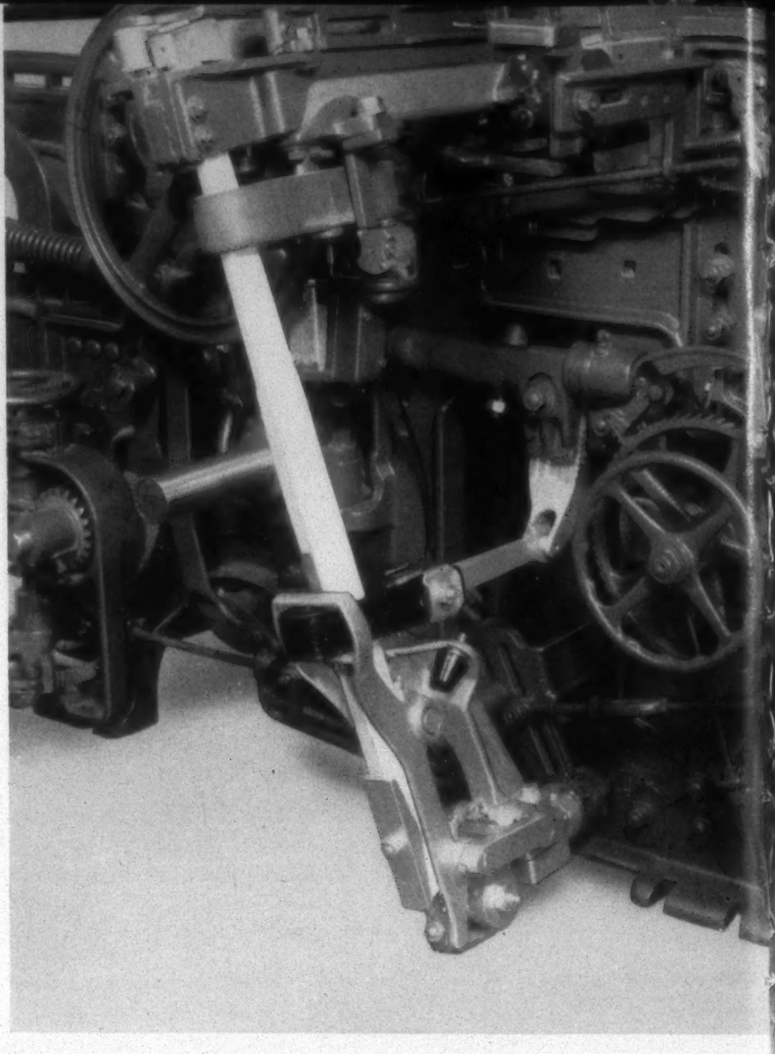
NEW YORK & NEW JERSEY LUBRICANT CO.
292 Madison Avenue, New York 17, New York
Southern District Manager: Lewis W. Thomason, Jr., Charlotte, N. C.
WAREHOUSES: Atlanta, Ga., Birmingham, Ala., Charlotte, N. C., Chicago, Ill., Columbus, Ga., Detroit, Mich., Greensboro, N. C., Greenville, S. C., Providence, R. I., St. Louis, Mo., Springfield, Mass.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufac ture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

NEW DRAPER LINKAGE PARALLEL ASSEMBLY

IMPROVES LOOM OPERATION

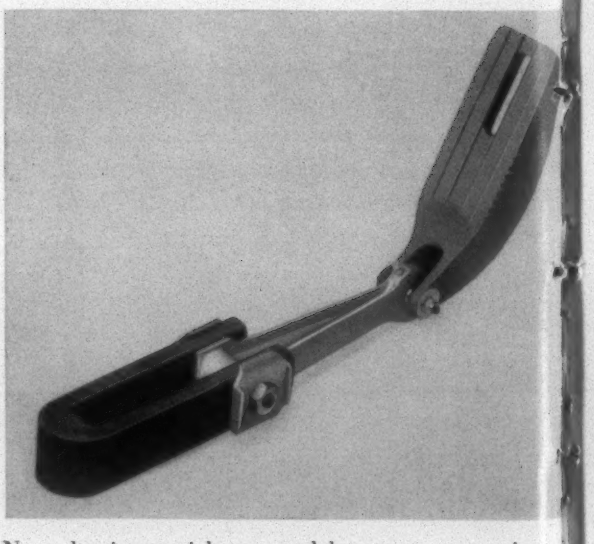
CUTS MAINTENANCE COST



Extensive mill trials prove the Draper Linkage Parallel Assembly results in a more uniform, controlled picking action. This parallel assembly eliminates "jump" and "play" in the picker stick . . . improves overall loom operation and reduces wear on pick motion and parallel parts.

A fixed power block position allows more uniform power settings to be maintained. Clamp-fit of the assembly on the rocker shaft permits easy, fast application. *Picker sticks may be replaced without altering Parallel settings.*

For complete details on this *cost* and *labor-saving mechanism,* contact your nearest Draper representative or write:

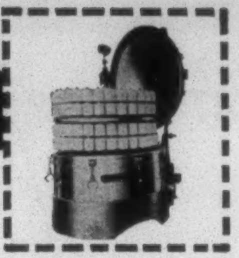


New aluminum pick arm and lug strap connection is recommended for above installation.

DRAPER CORPORATION
HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

For Cleaner PACKAGE DYEING



SONOCO

DYTEX® TUBES

with PLASTAVON SLEEVES

SONOCO Dytex Tubes, with Plastavon Sleeves, are the result of laboratory and in-use development proven by over 20 years' experience! Accepted by the industry for all standard forms of package dyeing. The exclusive Plastavon Sleeve allows more even dye distribution, better "flow" control and filters out objectionable or discoloring matter. Also reduces slippage in primary winding.

Supplied in standard sizes ⅝″ I.D. x 6¾″ long and 1⅝″ I.D. in varying lengths. Special sizes available. Tubes can be furnished in certain colors for identification. Consult your Sonoco sales-engineer or write us direct.

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PAPER CARRIERS
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WATCH FOR ANNOUNCEMENT OF A *New*

REINER DEVELOPMENT

- *FOR BETTER WARPING*
- *FOR FASTER WARPING*
- *FOR MORE ECONOMICAL WARPING*
- *SUITABLE FOR LARGEST DIAMETER— AND LONGEST TRAVERSE BEAMS CONTEMPLATED BY THE INDUSTRY TODAY...*

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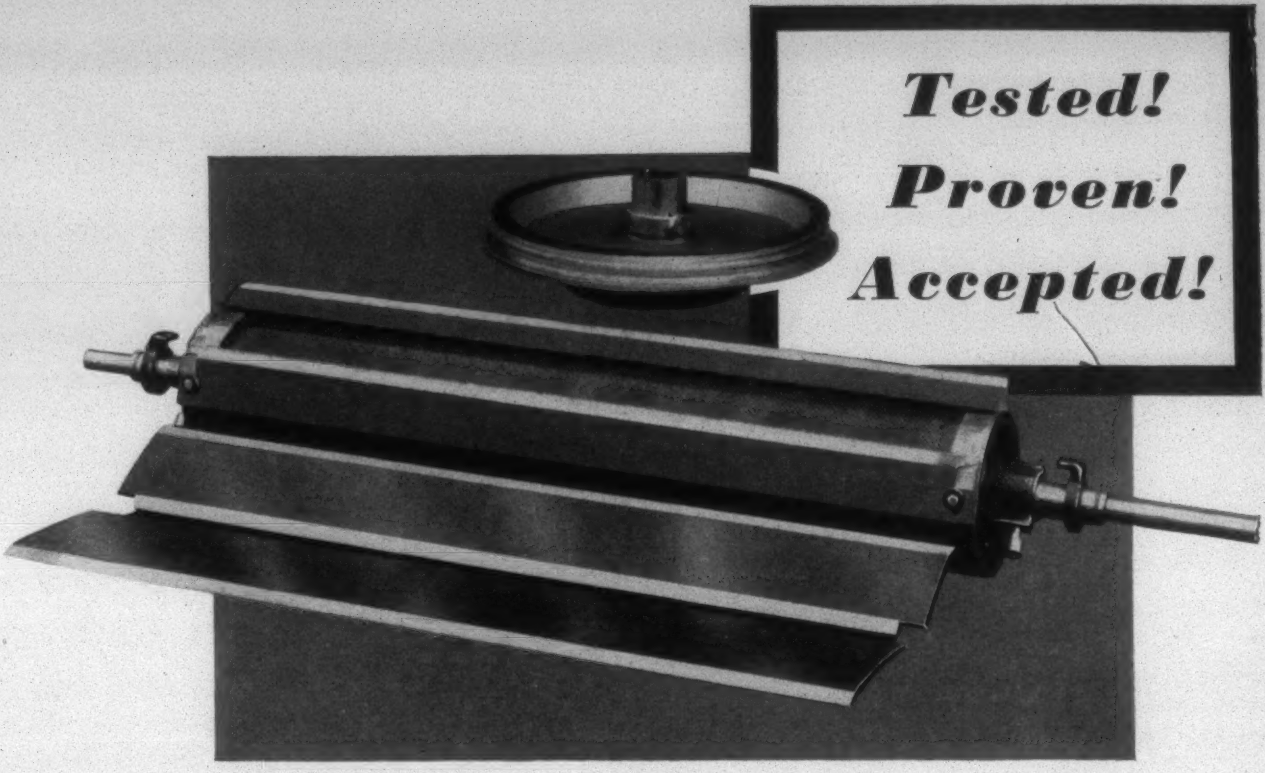

THE GOSSETT IMPROVED CARD FANCY

Eliminates Lumps and Flakes When Carding Synthetics

It is precision built . . . . . machined to your specifications and tolerances by GOSSETT technicians. The extra long spring steel wire fillets are guaranteed to fluff all synthetic fibers from the card cylinder thus enabling the doffer to pick them off evenly. Further, the GOSSETT Card Fancy fluffs the synthetic fibers so well that the doffer will pull off and make as good a sliver as you have ever seen.

When you install the improved GOSSETT Card Fancy there will be no more excess loading on the cylinder. Write at once for full particulars and estimated cost.

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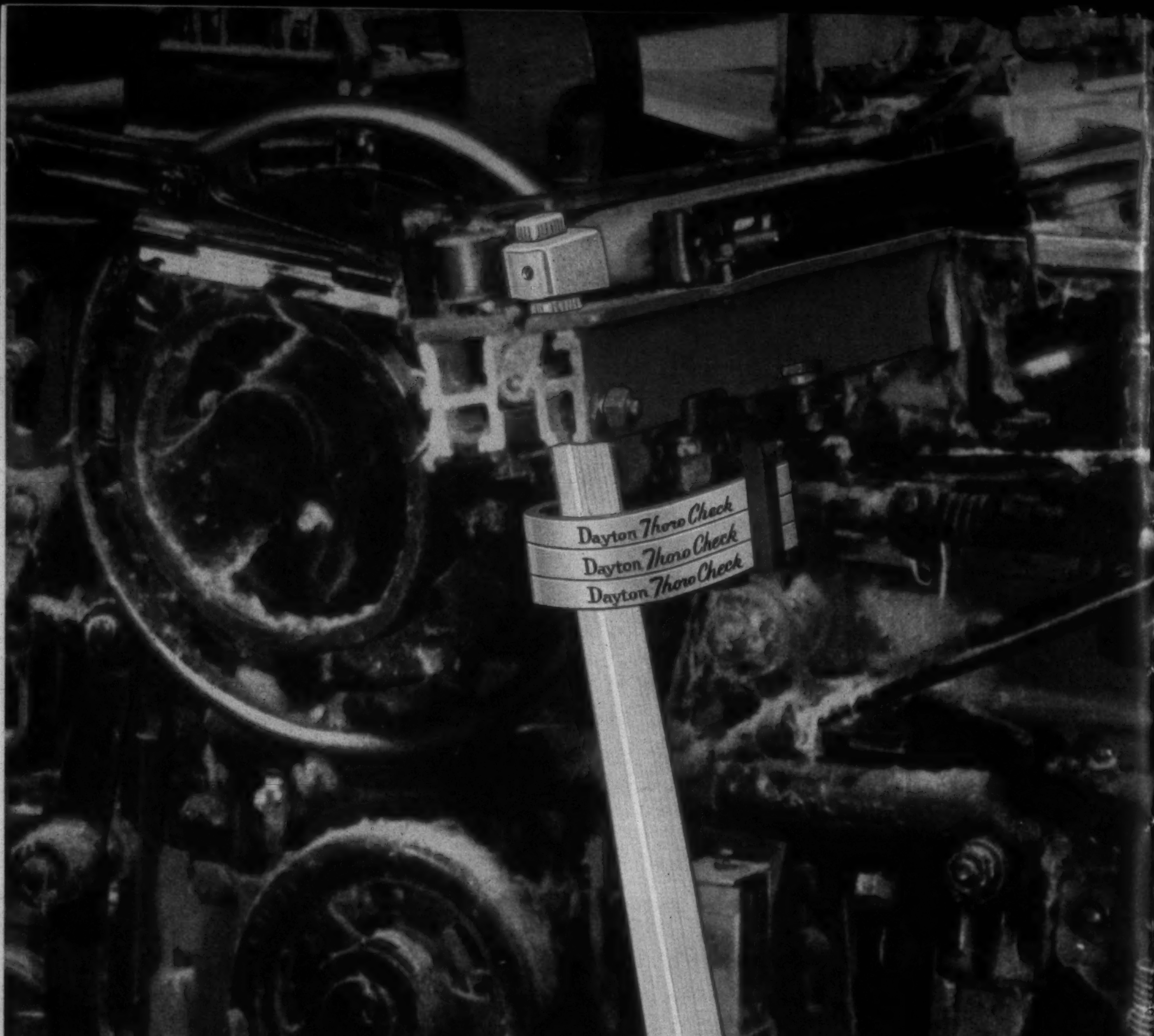
GOSSETT Machine Works, Inc.
GASTONIA, NORTH CAROLINA


Dayton Thoro Check
Dayton Thoro Check
Dayton Thoro Check
De Luxe

Get double and triple service life at all 3 points of shock . . .

with this Dayton Picking Combination

In actual mill tests operating 'round the clock, five days a week, Dayton Thorobred Loop Pickers, ThoroCheck Endless Check Straps and Thorobred Deluxe Lug Straps lasted 2 to 3 times longer than other products doing the same job.

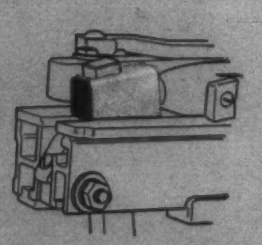
Dayton Thorobred Loop Pickers give double service, cushion millions of shuttle contacts without wear. Tilted construction assures perfect shuttle contact with less strain on the picker. Their flared bottom and tapered picker hole assures accurate seating without tearing the loop ply.

Dayton Endless ThoroCheck Straps in tests on X-2 looms functioned 24 hours a day, five days a week for 9 months without showing any visible signs of wear or needing adjustment. Other straps lasted only 2-3 months. Revolutionary design gives graduated checking action—eliminates drag over stick. Never affected by temperature or humidity, Daytons assure fast Monday morning starts. Patented construction and design fully eliminate permanent elongation.

Dayton Thorobred Deluxe Lug Straps, in mill tests, lasted twice as long as other lug straps. Their one-piece construction eliminates weak connector links. The molded-in plug absorbs the terrific shock, protects expensive loom parts. Super-strength cords in line with thrust direction give greater durability, longer life. Also free of permanent elongation.

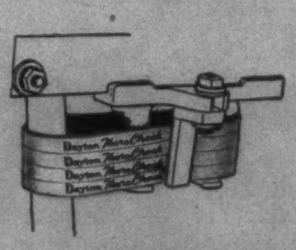
Reduce maintenance and downtime costs with the double and triple service life of Dayton loop pickers, check straps and lug straps. Call your Dayton Representative or write Dayton Rubber Co., Textile Div., 401 S. Carolina National Bank Building, Greenville, S. C.

Dayton Thorobred Loop Picker



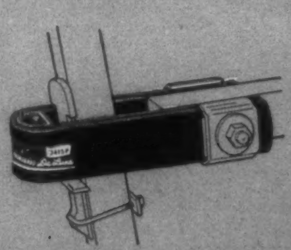
New Design! Narrow back eliminates wear on lay end strap.

Dayton ThoroCheck Straps



Extra economy! Can be replaced singly or in sets.

Dayton Thorobred Deluxe Lug Straps



One-piece construction! No rivets or other parts to work loose.

© D. R. 1956

Dayton Rubber
51
YEARS OF PROGRESS

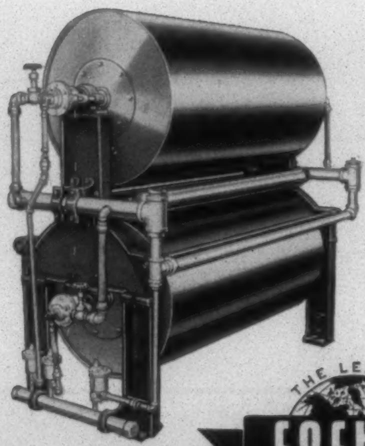
Dayco and Dayton Thorobred Textile Products for better Spinning and Weaving.

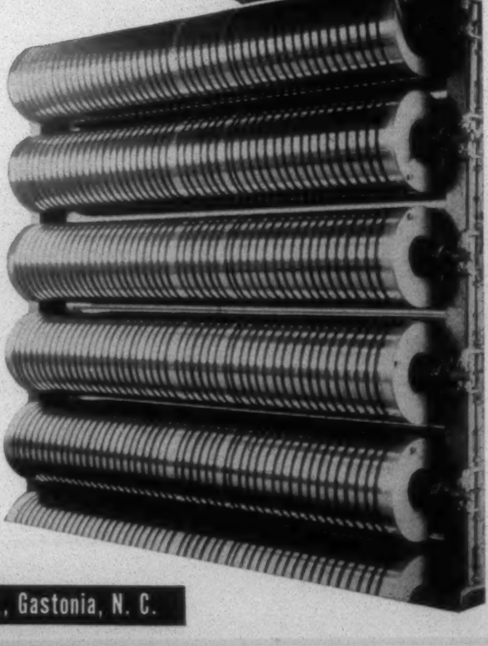
Cocker. . . . . .

your most dependable source for fine Stainless Steel

Cooking and Storage Kettles
Size Boxes
Drip Pans
Drying Ranges
Hoods
Cylinders of All Types
Special Equipment

Engineered to meet your individual requirements and produced in our new, modern stainless steel plant. Send us your inquiries.

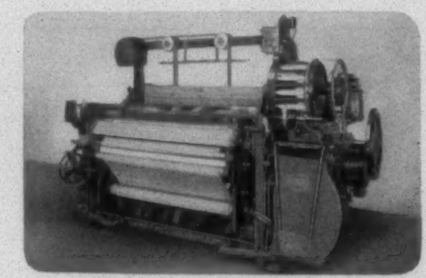




THE LEADER AROUND THE WORLD
COCKER Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE
WARP PREPARATORY EQUIPMENT

Whichever way the wind blows...



Let it blow! It makes no difference if fashion trends change overnight . . . in colors, patterns, constructions, yarns . . . when your weaveroom is protected by C & K's new **M**ulti-**P**urpose Looms. For these unique and all-new looms *can also be changed overnight* to supply any sudden new demands, even including conversion from plain to fancy constructions, or vice versa.

It's as simple as this: You can't buy better insurance for your mill (or your P & L statement) than these completely versatile **M-P** Looms. *Call C & K today.*

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Loom works
WORCESTER 1, MASSACHUSETTS, U.S.A.

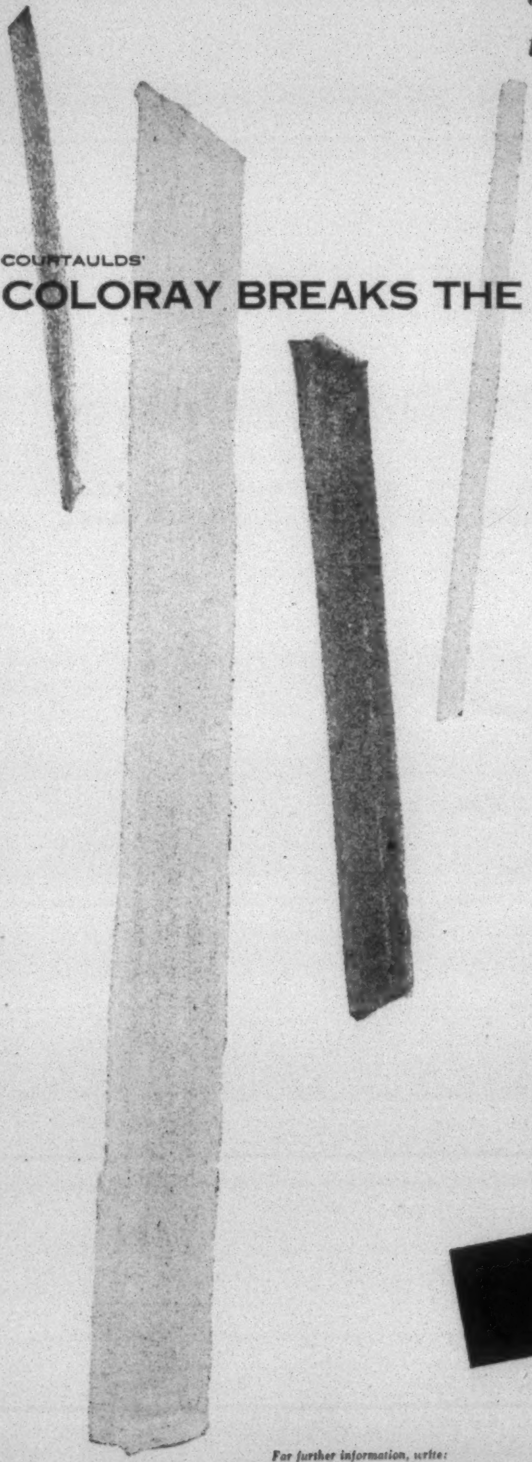
CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec

C&K
Looms for every Woven Fabric

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are WOVEN Fabrics.

8 Coloray colors resist fading—
even after 500 test hours
in direct tropical sunlight...

*and there's no rating high enough
to describe so much colorfastness!*



COURTAULDS'

COLORAY BREAKS THE *Colorfastness* BARRIER!

No other range of textile colors—anytime—anywhere—have been known to come close to Coloray's remarkable performance in blazing South Florida sunlight.

After 500 hours of exposure—still no effect on Coloray turquoise, peacock blue, terra cotta, tan, medium brown, silver grey, slate grey and black. Other "colorfast" colors claim *superior* light-fastness after only 80 hours of sun exposure without fading. And here is light-fastness over 6 times better!

That's typical of the phenomenal fastness of all 19 Coloray colors . . . a range that rockets safely into the 160, 320 and now 500-hour exposures. The sound reason for these spectacular results is: Coloray colors are not superficially dyed, but solution-dyed. Meaning the color is caged inside the fiber as the fiber forms! That's why Coloray colors have a deep-down beauty that adds dollars to the appearance of merchandise.

That's why you can count on Coloray colors to break the *sales* barrier in *your* business!

Results of Tests on Coloray Conducted by South Florida Test Service

Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Black	500	*	500	*
Slate Grey	500	*	500	*
Silver Grey	500	*	500	*
Tan	500	*	500	*
Peacock Blue	500	*	500	*
Turquoise	500	*	500	*
Terra Cotta	500	*	500	*
Medium Brown	500	*	500	*
Hunter Green	320	L8	320	L8
Dark Blue	320	L8	160	L7

Color	Hours of Exposure (Under Glass)	Ratings*	Hours of Exposure (Direct Weathering)	Ratings*
Malachite Green	320	L8	160	L7
Indian Yellow	320	L8	160	L7
Red	320	L8	160	L7
Dark Brown	160	L7	160	L7
Sulphur Yellow	160	L7	160	L7
Medium Blue	160	L7	80	L6
Apple Green	160	L7	80	L6
Pink	160	L7	80	L6
Light Blue	80	L6	80	L6

*American Association of Textile Chemists and Colorists. No rating yet established to cover more than 320 hours.

COLORAY.

Courtaulds' rayon fiber with Captive Color..."*can't escape!*"

For further information, write:

COURTAULDS (ALABAMA) INC. *First name in man-made fibers, first name in solution-dyeing*
600 FIFTH AVENUE, NEW YORK 20 • Greensboro, N. C. • Le Moyne Plant, Mobile, Ala.

Keep Synthetics and Blends "in the pink"

National Nacelan® Pink 3B

Bright, fast shades of pink and bluish red on acetate, interesting bluish red hues on nylon . . . that's the spectral story of National Nacelan Pink 3B. On acetate it has good-to-excellent fastness to light and wet processing; on nylon it exhibits even better fastness properties. It has excellent printing properties on both.

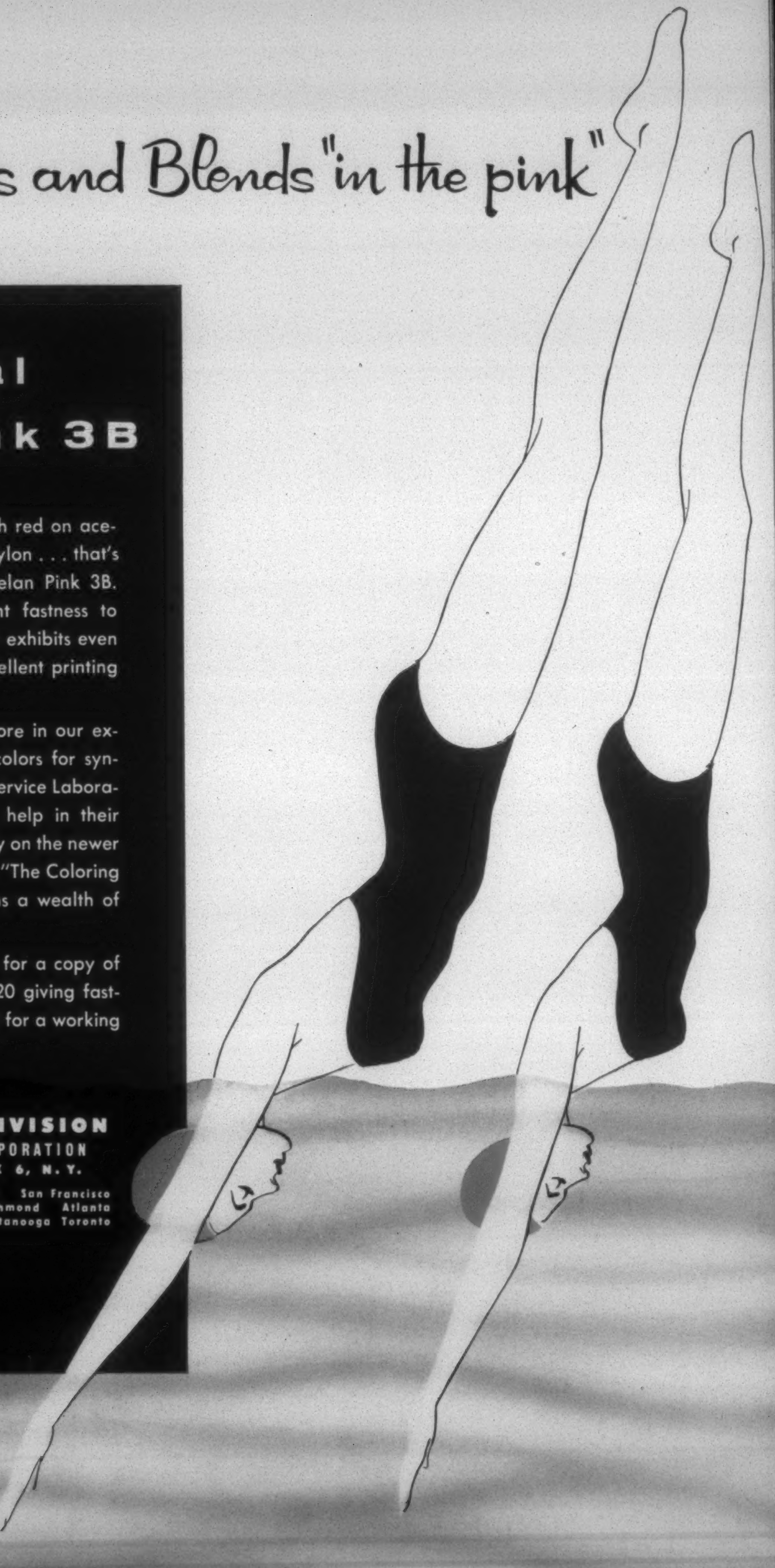
National Nacelan Pink 3B is one more in our expanding line of dyes and printing colors for synthetics and mixtures. Our Technical Service Laboratories can give you very practical help in their selection and application, particularly on the newer synthetics and mixtures. Our booklet "The Coloring of Postwar Synthetic Fibers" contains a wealth of useful information.

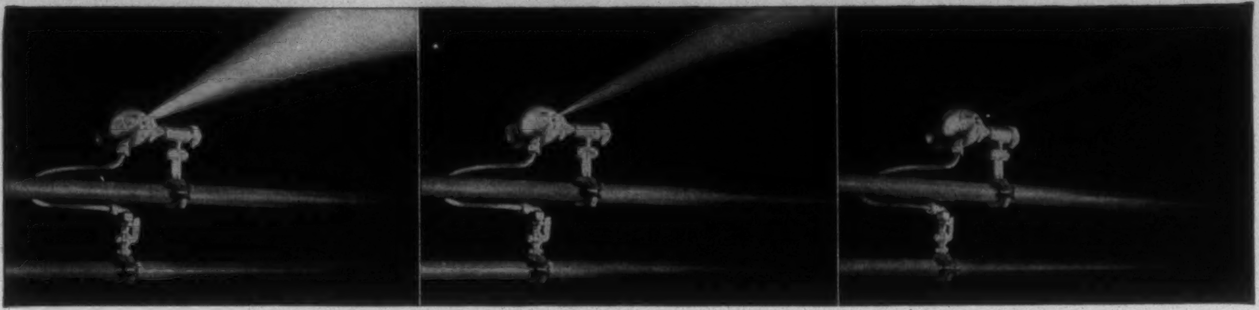
Get in touch with our nearest office for a copy of this helpful booklet, for Bulletin #420 giving fastness ratings on Nacelan Pink 3B and for a working sample of this dye.

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

NATIONAL N ANILINE
Allied Chemical





"I want my humidifier heads to keep running whenever humidification is needed", says a mill executive —

Good idea, of course. That's why he likes GRADUMATICS.

Output is controlled automatically to maintain a constant humidity at all times.

Operating with both air and water under pressure, GRADUMATICS are more efficient than gravity type atomizers. Use less air. "Atomization" of moisture is more complete, resulting in quicker evaporation, and longer "blow" of the resulting *vapor*. Excellent performance at all evaporative outputs from 2 to 16 pounds of water per hour.

No other system approaches the GRADUMATIC in uniformity of resulting humidity and in economy of operation at high capacity. Good economy and even better spray quality when operating at low evaporative output.

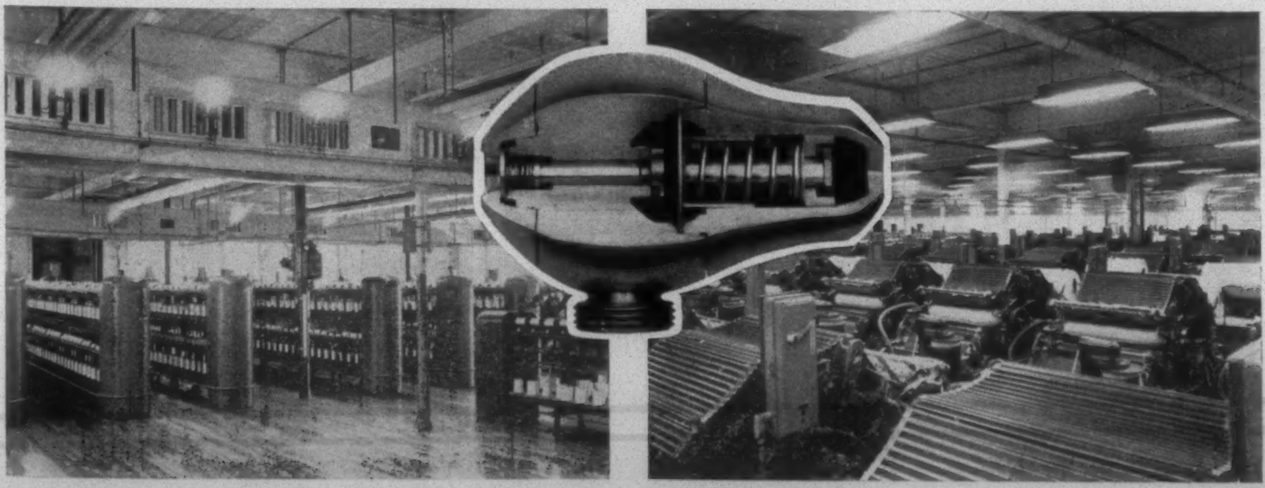
There are other advantages too. For example the GRADUMATIC head is made non-adjustable. No guess-test required. You *know* it's right. And with both air and water under pressure, frequent self-cleaning is quite unnecessary.

Simple? Just look at the few parts. Repairs are a cinch, and seldom needed.

Parks-Cramer Company

FITCHBURG, MASS.   CHARLOTTE, N. C.   ATLANTA, GA.

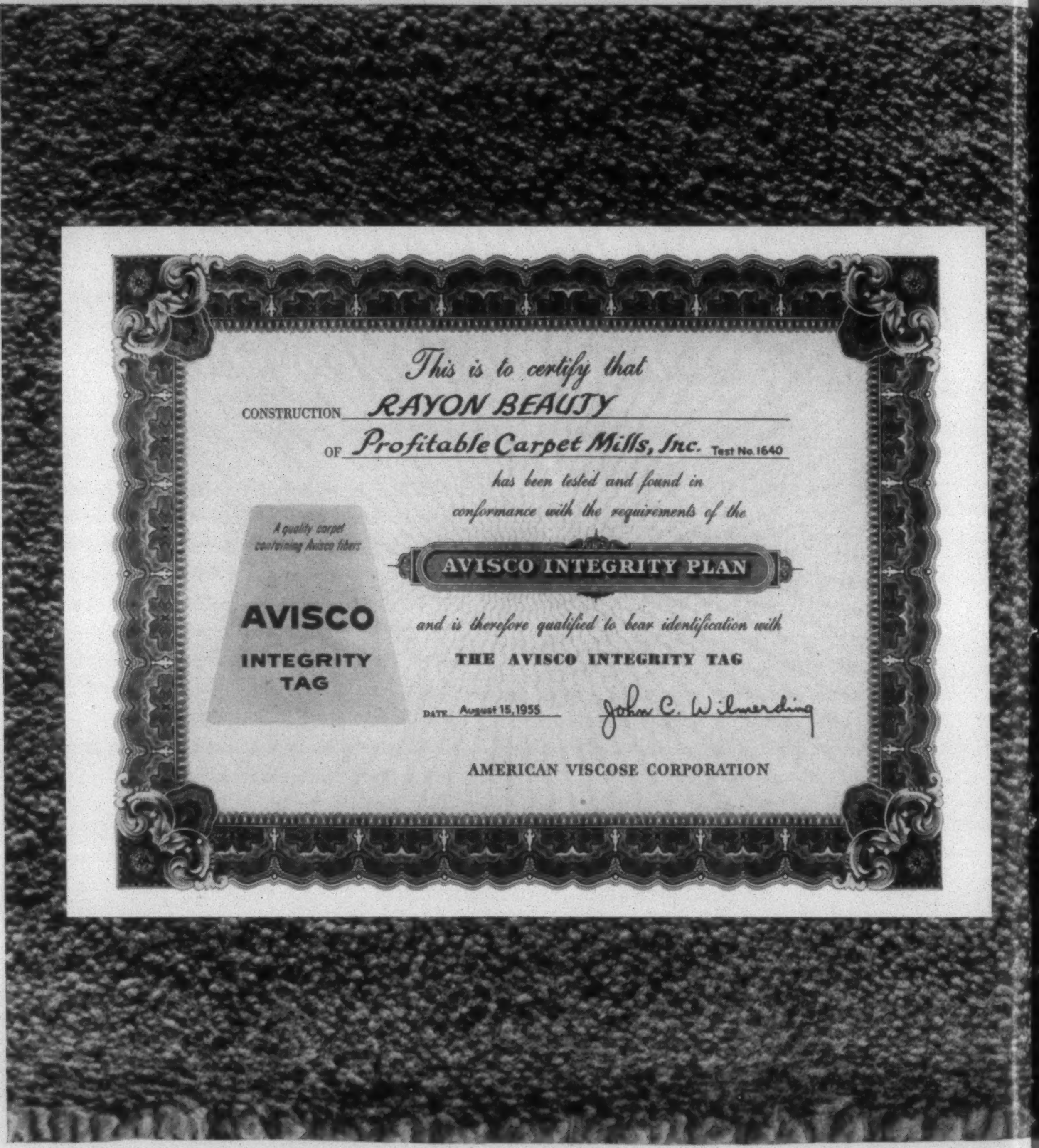
Humidifying and Air Conditioning Since 1904
Traveling Cleaner Systems Since 1926



With Airchanger, or as boosters for Central Station System

For direct humidification in all textile mill departments

How the AVISCO® Integrity



This is to certify that

CONSTRUCTION RAYON BEAUTY

OF Profitable Carpet Mills, Inc. Test No. 1640

has been tested and found in conformance with the requirements of the

AVISCO INTEGRITY PLAN

and is therefore qualified to bear identification with

THE AVISCO INTEGRITY TAG

DATE August 15, 1955 John C. Wilmerding

AMERICAN VISCOSE CORPORATION

A quality carpet containing Avisco fibers
AVISCO
INTEGRITY TAG

This is the certificate awarded to all rayon carpeting which meets or exceeds the minimum standards established for the Avisco Integrity Plan. This means strict control of pile fiber, pile weight and density, color-fastness and construction.

The award of this certificate is based on development work carried out by the world's largest rayon research laboratory at Marcus Hook, Pa.

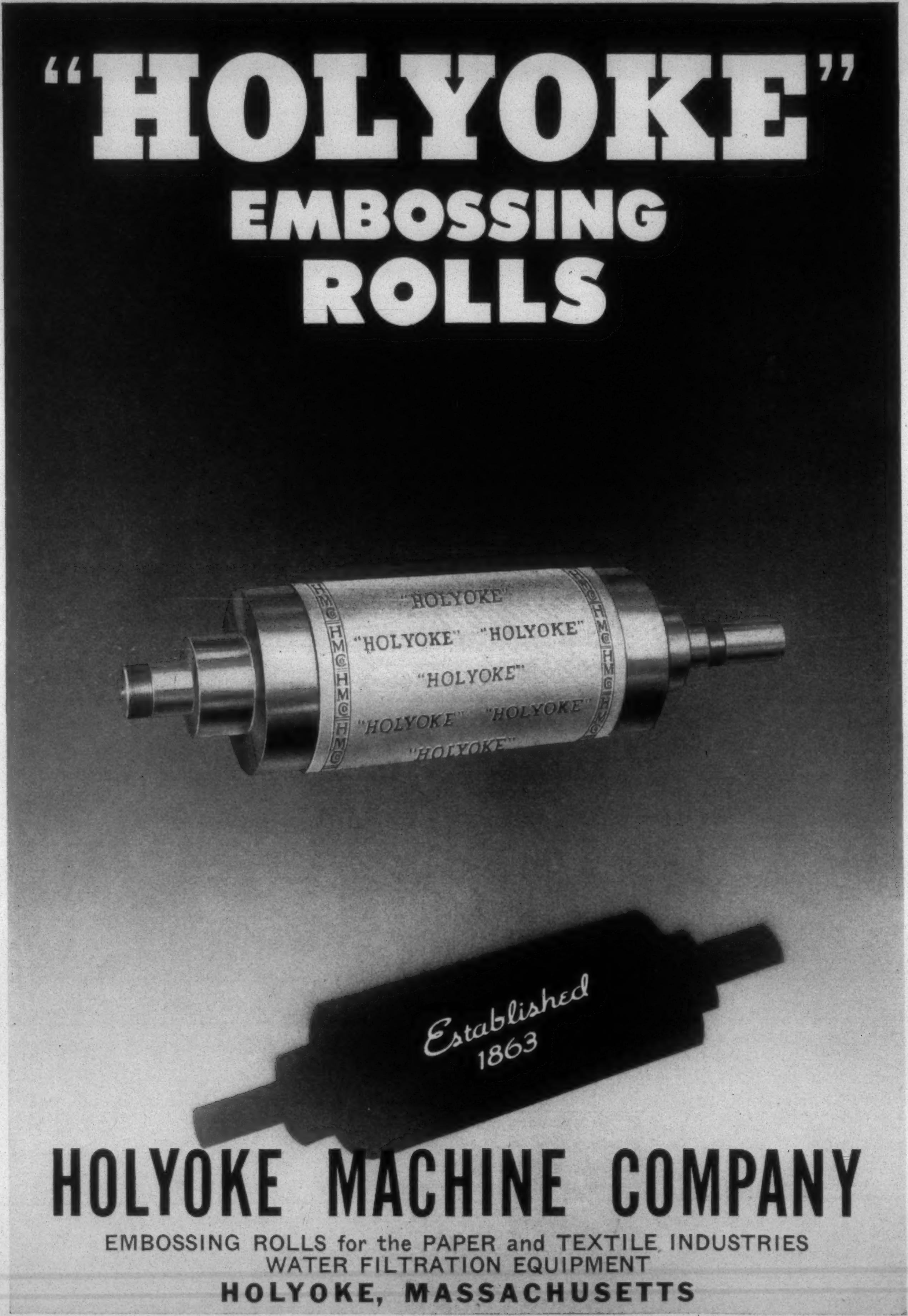
Plan helps sell carpets

A quality carpet containing Avisco fibers
AVISCO®
INTEGRITY TAG

This is the tag that flags the customer at point of sale. It tells customers two important facts: 1, that the carpet contains Avisco fibers, used properly, and 2, that the carpet meets Avisco construction standards and represents quality that can be trusted, as described in Avisco national advertising.

It is a boost for everyone—retailer, distributor and manufacturer—when carpeting carries this important tag. A list of approved constructions is mailed monthly to all carpet retailers. A booklet about the Integrity Plan is also available. For copies of either list or booklet, call LA 4-7200 or write:

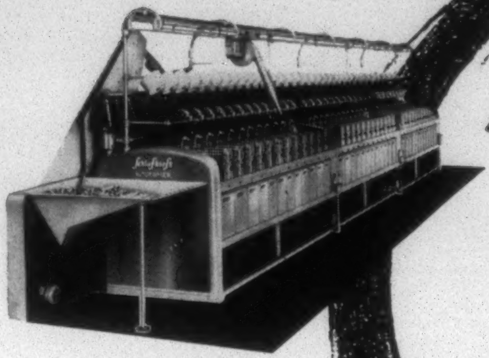
AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y.



"HOLYOKE"
EMBOSSING
ROLLS

HOLYOKE MACHINE COMPANY

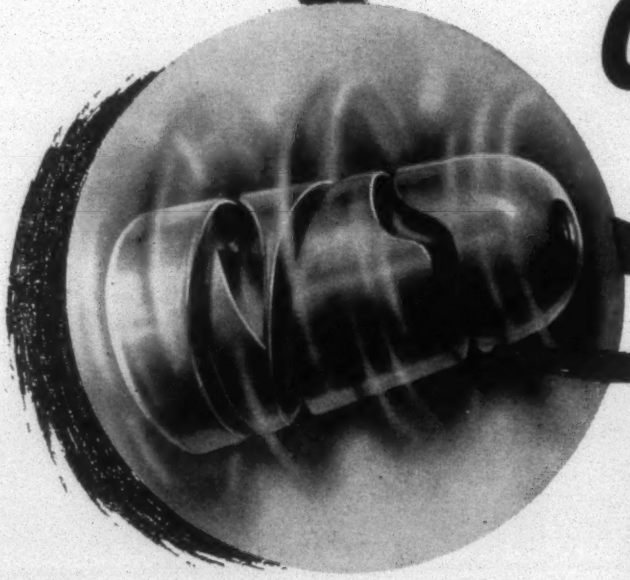
EMBOSSING ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS



The Schlafhorst Autocopser

Autocopser's Exclusive

ROTARY YARN GUIDE



makes continuous quilling speeds of 10,500 - 12,000 R. P. M. an actual daily performance in hundreds of mills!

SPEED = *lower investment costs*

SPEED = *higher production*

SPEED + *rotary yarn guide = no yarn guide wear*

SPEED + *yarn guide design = no yarn damage*

SPEED + *quilling know-how = superior filling quality*

Schlafhorst

AUTOCOPSER

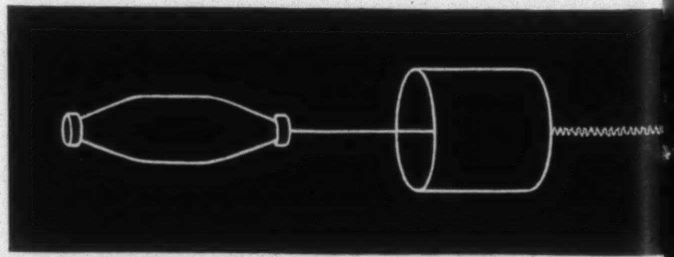
First Name in Automatic Quillers the World Over

Sold and Serviced By

THE TERRELL MACHINE COMPANY, INC., 3000 S. BLVD., CHARLOTTE, N.C.

NEW TWISTS in stretch yarn processing

Universal provides a complete service—
including special machinery, easy financing,
expert technical aid and market information



Universal has developed a comprehensive service for stretch yarn production that covers every factor from pirn to finished product. Here are the highlights:

Special Machines — In line with its long established leadership in the manufacture and development of textile machinery, Universal was first to go "all out" to meet the industry's needs for new type machines to process the new "magic" yarns. As a result of this pioneering, Universal is the recognized headquarters for machines especially developed to handle all the popular new bulk and stretch yarns. These machines have thoroughly proved themselves in production. Today they are on the job, operating smoothly and successfully.

Practical Financing — In recent years Universal's Pay-As-You-Profit Plans have been enabling mills to acquire up-to-the-minute textile machinery, without jeopardizing their cash, capital position or borrowing power. Applied to the new Universal machines for processing stretch and bulk yarn, these popular plans provide for long-term purchase or long-term lease.

Plus...

The Universal Yarn Evaluation Department — Universal realizes that its obligations do not end with supplying and financing new machinery. Equally important in the stretch yarn field is a knowledge of how to process the new yarns to obtain the fabric results desired, and how to gauge their marketing possibilities.

For this purpose the Universal Yarn Evaluation Department has been established. Important goals of the new Department include:

Setting up standards for producing and testing stretch yarns; providing samples to mills, recommending test procedures, and appraising samples submitted by mills; thorough investigations of possible trends, needs and end uses.

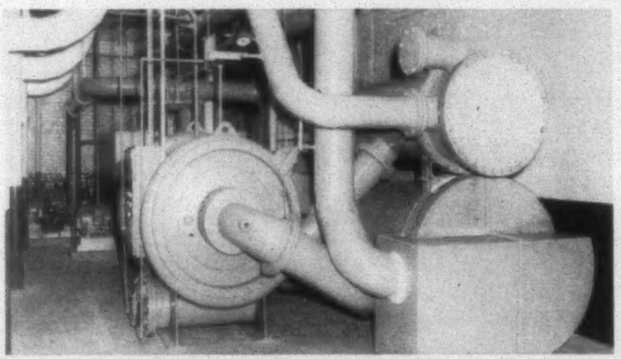
For further facts, see your Universal Representative or write direct.

UNIVERSAL WINDING COMPANY
P. O. BOX 1605, PROVIDENCE 1, R. I.
Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles
Winding and Twisting Machinery for Natural and Synthetic Yarns

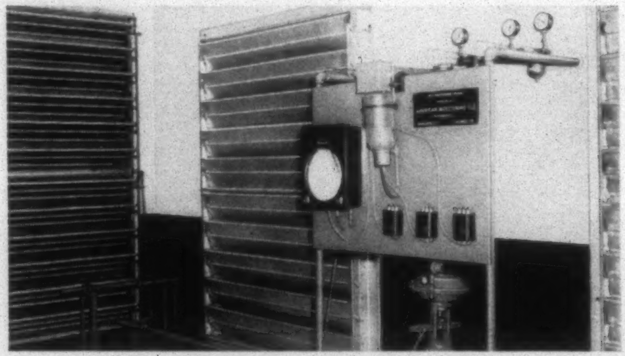
LEESONA ®

23.5.26

Card room at Highland Park Mfg. Co., Mill No. 1, Charlotte, N. C. Ductwork and zone control atomizers are part of Amco's central station system, designed by J. E. Sirrine Company for the entire mill.



Refrigeration is supplied by a 350-ton Trane Centravac unit located in the basement.



The Amco control panel alongside the fresh and recirculated air louvers.

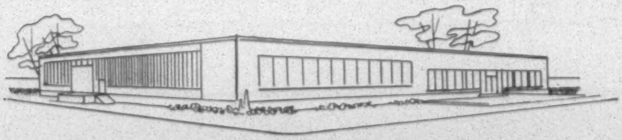
This ECONOMICAL split-system by Amco

provides thoroughly conditioned air, with maximum operating efficiency

Whether your need is for one room, or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification alone; or in combination with cooling, such as in the ductless evaporating cooling system; unit dry-duct systems; or central station systems.

The central station system Amco recently completed at Highland Park Mill is a good case in point. In order to effect savings, it was felt advisable not to install the excess air capacity found in conventional design. Instead, Amco installed a "hand tailored" split system using a smaller central station unit augmented by room atomizers, thus reducing both initial cost and operating cost. This system provides complete control with even greater flexibility of operation. Savings have been substantial.

Amco engineers will be glad to work out a solution to any problem you may have. Next time call on Amco for reliable advice. There is absolutely no obligation.

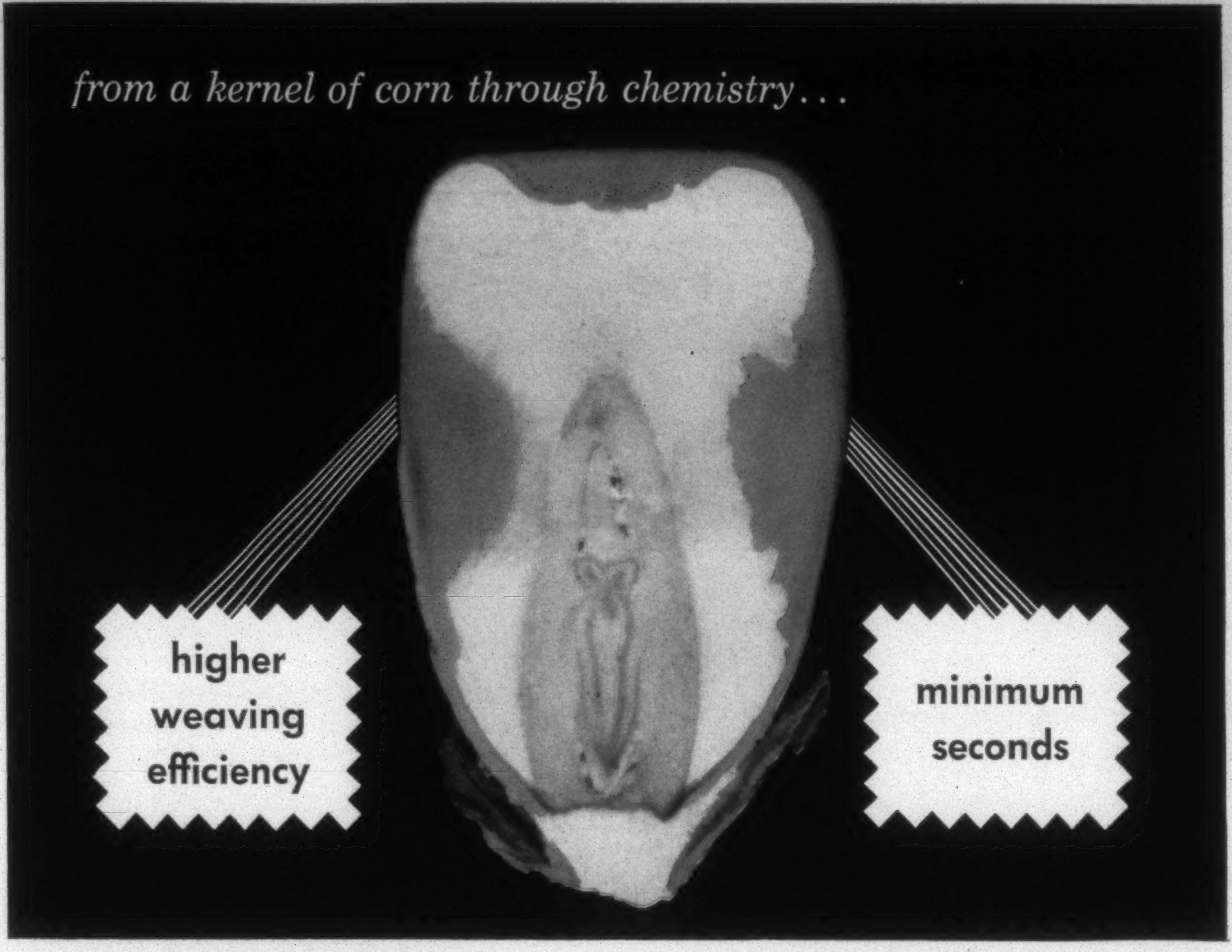


New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C., for the fabrication of duct work and sheet metal products.

AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA GA • BOSTON, MASS. • CAMDEN, N. J. • CLEVELAND N. C


from a kernel of corn through chemistry...
higher weaving efficiency
minimum seconds

NALEX®: a warp size for spun rayon and worsted yarns

NALEX is starch changed through chemistry. It is noncongealing. Because of this, Nalex improves penetration; prevents hard size; and forms stronger, more continuous films on spun rayon or worsted yarns.

The result?

Seconds are reduced. Efficiency is increased—even at low humidities.

NALEX is compatible with resins and synthetic binders. Highly recommended for sizing the new blends of natural and miracle fibers.

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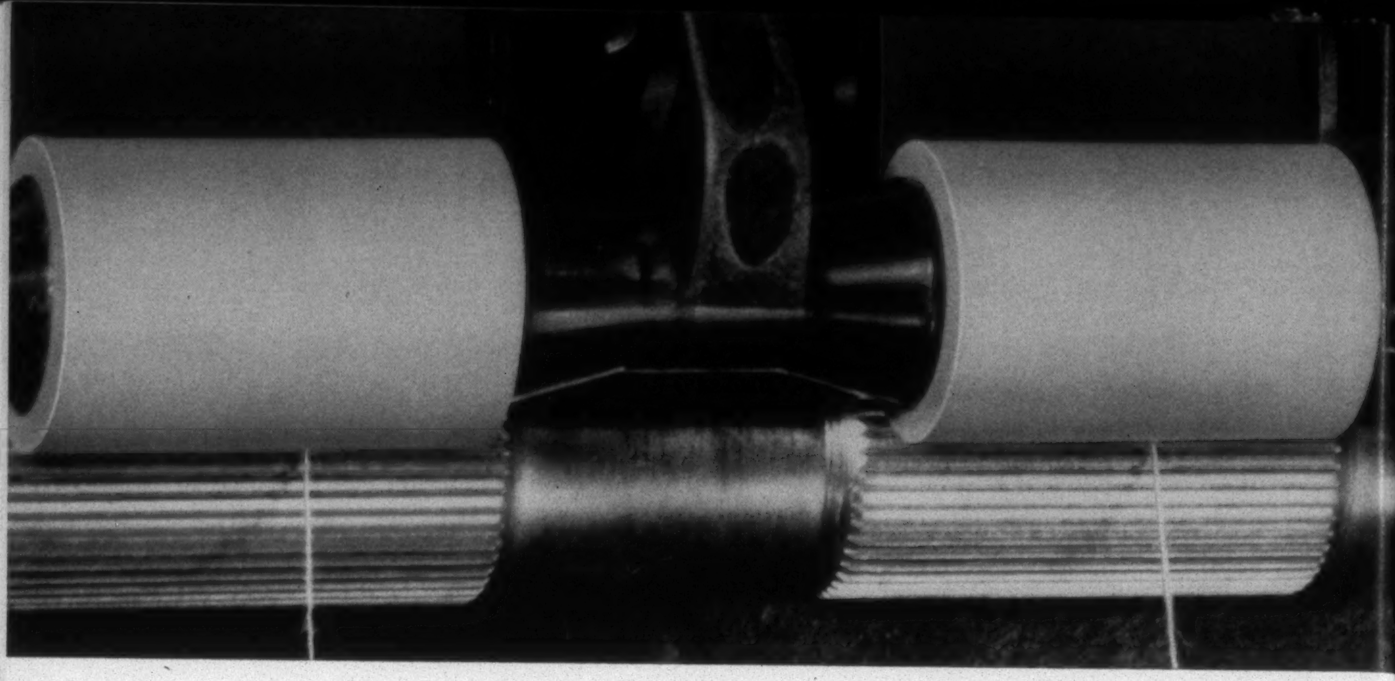
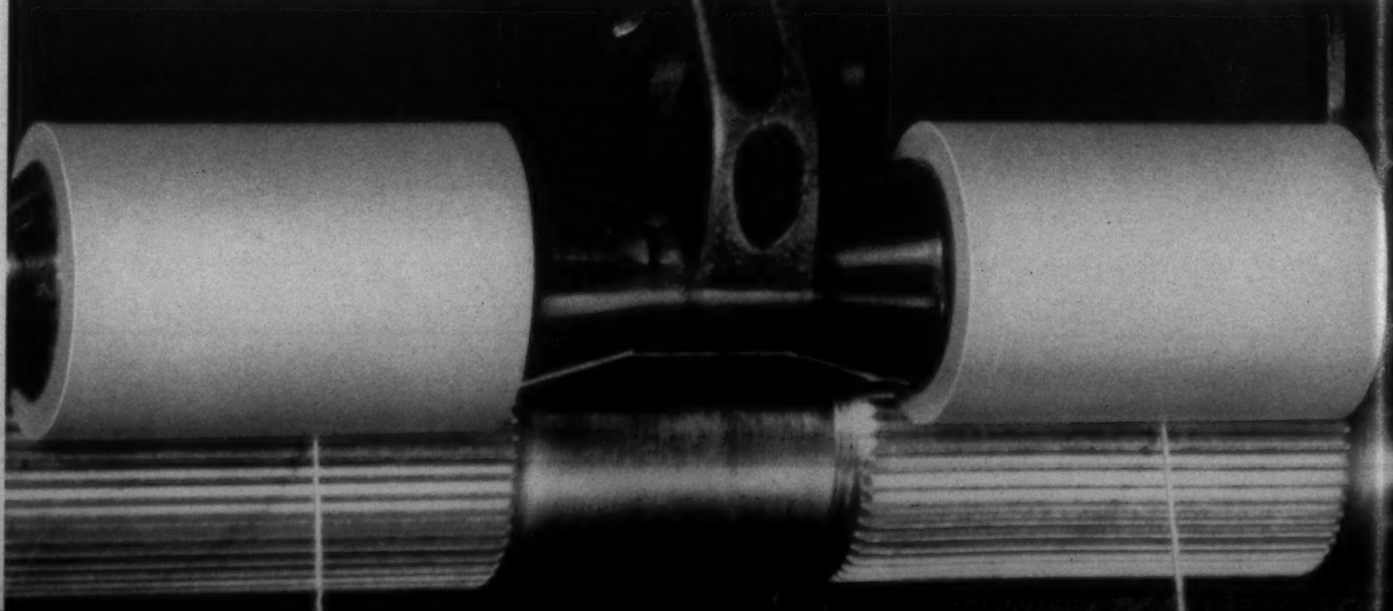
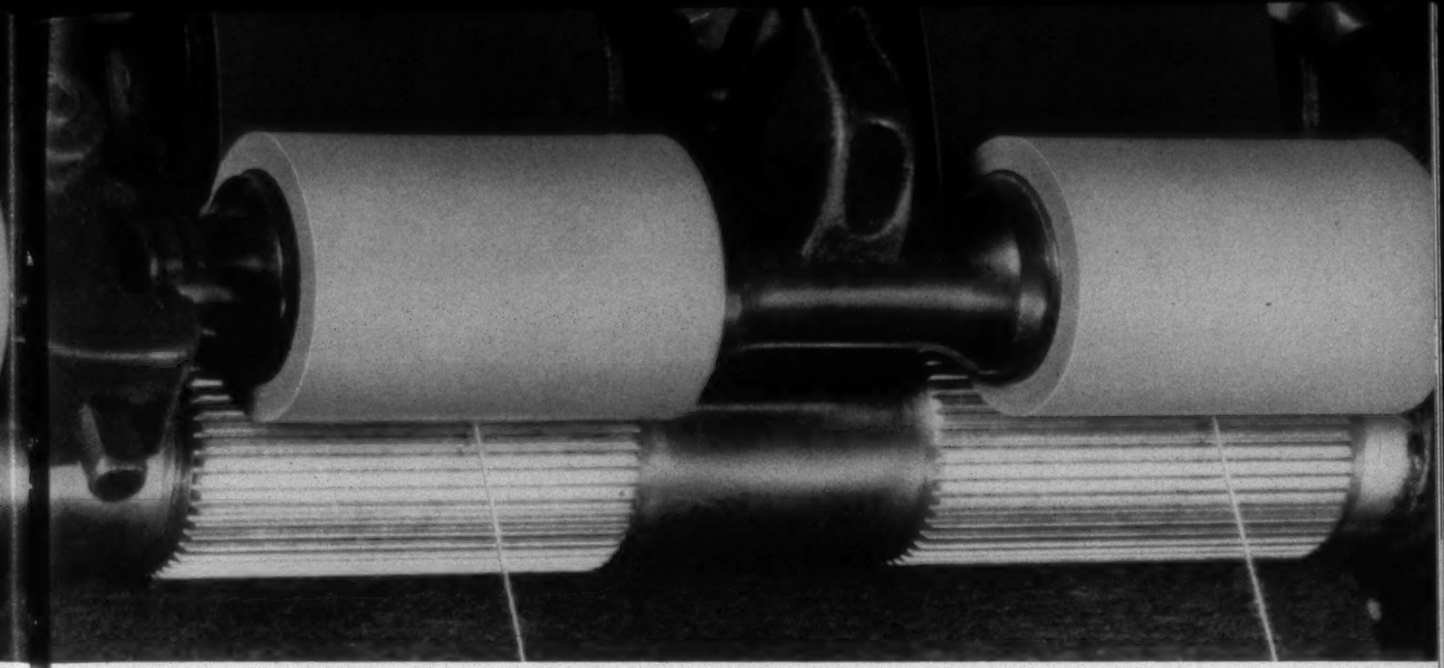
STARCH PRODUCTS INC.

National Starch Products Inc., 270 Madison Ave., New York 16, N. Y. • Atlanta • Boston • Philadelphia
In Canada: National Adhesives (Canada) Ltd., Montreal



Not a lap-up in sight !





ARMSTRONG J-490 ACCOTEX® COTS REDUCE LAP-UPS...NO MATTER WHAT YOU'RE SPINNING

Are you spinning natural fibers? Synthetics? Blends? In any case, Armstrong J-490 Cots help prevent front roll lapping—and turn out strong, uniform yarn year after year.

J-490 Cots are made of a patented synthetic rubber material that eliminates the basic cause of lapping—electrical attraction between cot and fiber. The J-490's built-in electrolytes actually tend to repel broken ends.

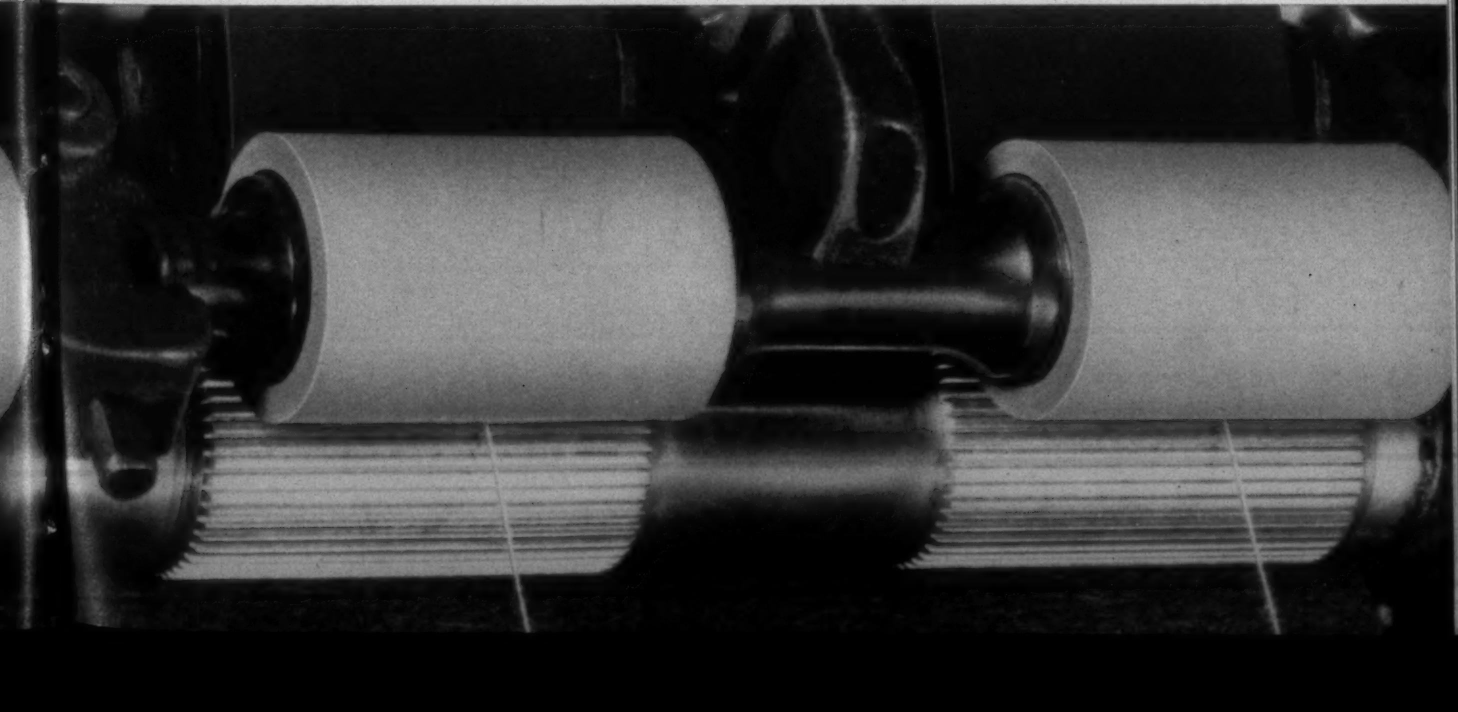
J-490 Cots are also exceptionally smooth and clean running. There are no rough fillers to pull short fibers from stock and cause excessive end breakage. An occasional re-buffing keeps the J-490 spinning like new.

Your Armstrong man will be glad to set up a test side of these cots. Ask him about it. Or write to Armstrong Cork Company, Industrial Division, 6502 Davis Avenue, Lancaster, Pennsylvania.

P. S. If eyebrowing is a problem in your spinning room, try the Armstrong NO-742-S Cot. It has a "constant friction" surface that packs waste well back under the clearers and stops eyebrows from forming.

Armstrong ACCOTEX COTS

. . . used wherever performance counts



CHECK THESE TWO TARGETS FOR TROUBLE!

Quality of your production depends on these Bobbin and Spindle Gears.

These high-speed Bobbin & Spindle Gears are vitally important to the quality-conscious mill. If they do not mesh properly, uniform bobbins and even-running work are impossible. Your best replacement source is Saco-Lowell, where every gear is manufactured to the original specifications. The tough outer surface of the gears assures accurate, trouble-free operation—their quality is guaranteed by Saco-Lowell and unequalled at any price.

Substitutes **actually cost more** than genuine Saco-Lowell Bobbin & Spindle Gears. Cost-conscious mills must recognize the **high** replacement factor of these "foundry" gears. Their inferior manufacture, under normal high-speed operation, results in increased wear to these gears and other component parts.

Remember, the **initial price** for Saco-Lowell gears is competitive with any other make — in the long run they cost far less.

Ask your Saco-Lowell representative for the facts — he'll prove that **"It Pays to Use Genuine Saco-Lowell Repair Parts."**

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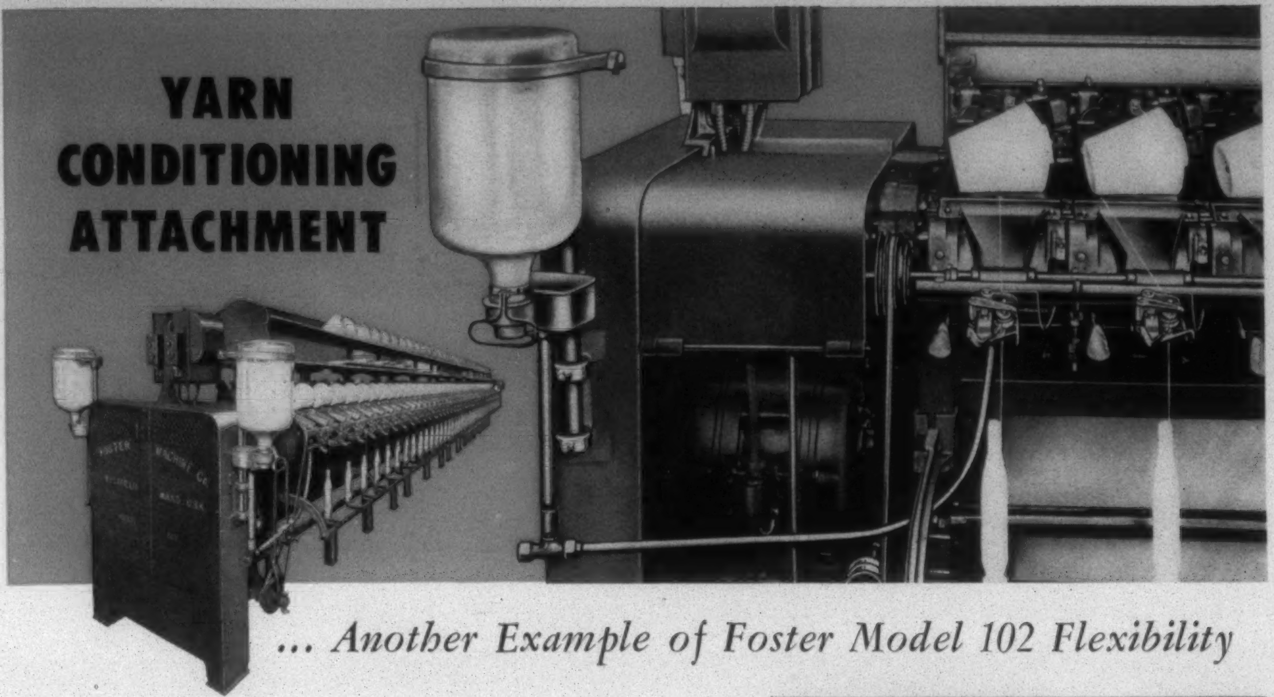
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE; and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

YARN CONDITIONING ATTACHMENT



... Another Example of Foster Model 102 Flexibility

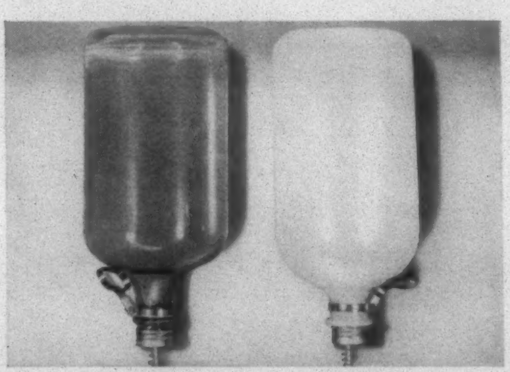
This flexibility feature of the Foster Model 102 Winder is particularly important, because some types of winders can not use yarn conditioning attachments.

This attachment lubricates and softens yarns with a wax or oil emulsion. It restores normal moisture content and gives the yarn a soft hand, so that it will run well in the knitting machine and reduce needle breakage.

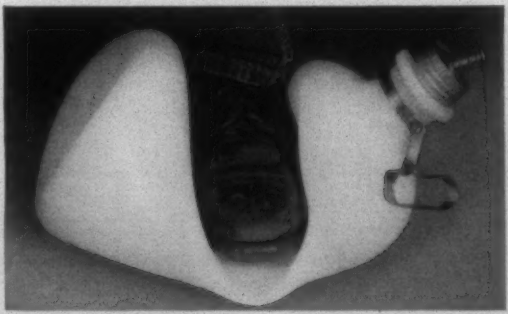
Readily applied to existing machines, or supplied with new machines, it is particularly useful when winding mercerized yarn or package dyed yarn. It can condition any type of yarn at any speed within the capacity of the machine — up to 750 y.p.m. It also permits numerous variations in percentage of moisture pickup.

Other flexibility features of the Foster Model 102 are: — 1. Handles any type or count of staple yarn except the coarsest. 2. Produces any cone taper commonly used and any angle of wind from 9° to 18°, with simple and inexpensive changes. 3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. 4. Winds dyed yarn, even when damp. 5. Can be built to wind up to 7″ traverse.

Who knows what you'll be winding a few years from now? Be prepared for the unforseen insofar as possible. Get all the facts about the Foster Model 102. Send for Bulletin A-95 now.



PLASTIC BOTTLES now available for Foster Yarn Conditioning Attachment. Weigh only 2 lbs. ½ oz. Glass bottle weighs 6 lbs. 15½ oz.



UNBREAKABLE. Does not shatter, if dropped. Lasts indefinitely; eliminates accidents; pays for itself many times over.

FOSTER MACHINE COMPANY

A Winder for Every Textile Purpose

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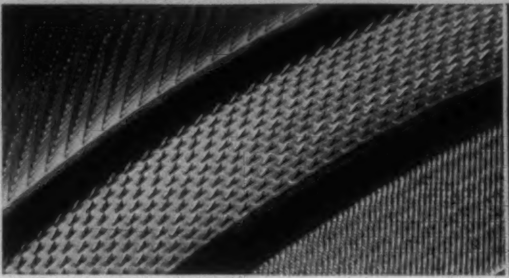
Southern Office — Johnston Bldg., Charlotte, N. C.

Canadian Representative — Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.
European Representative — Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England



Ashworth Tips ON CARDING

No. 26 in a Series

THE FEED END OF CARD

1. Correct ratio of speed between lap roll and feed roll prevents stretch, and consequently unevenness of sliver. Check with card builder for correct gearing, should you experience difficulty.
2. Check surface of feed plate. Be sure it is smooth and free of oil. Rough spots can be smoothed with oil and emery cloth.
3. Nose of feed plate should be free of any irregularities that interfere with setting to gauge end to end.
4. See Tip No. 25 for recommendations on card feed rolls.
5. Set selvage guides so that lap delivered will measure from 39¼" to 39½". Never permit lap to double over on selvages.
6. The lickerin is the most important cleaning unit on your card. Be certain it is equipped with sharp wire, free of bruises or damaged teeth, and that it will set to gauge from end to end and all around its circumference.
7. Lickerin screens should be of the correct contour to fit your lickerins, and should be kept clean. Screens that will not set to the gauge should be discarded.
8. Mote knives must be straight, with working edges free from nicks, burrs and rough places. Brackets should be installed in pairs for exact alignment of mote knives and to permit of setting to the gauge all the way across the face of the lickerin.
9. The scavenger roll on the feed roll should always be completely covered with a good grade of napped fabric, to properly control draft between lickerin bonnet and feed roll.
10. The lickerin cover should fit properly, and the make-up piece between lickerin cover and cylinder back plate should also be an exact fit — all of this to better control the blowing out of stock at these two points.
11. The lickerin shafts and shrouds should be checked periodically for wear, and the lickerin bearing cap should always be securely tightened.
12. The quality of your carding starts at the back of the card, and too much attention cannot be given to all of the above.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)
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Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
E. G. Paules, Representative — Los Angeles, Calif.
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Clothing for Cotton, Wool, Worsted, Silk, Synthetic Fibre and Asbestos cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Topflats Reclothed.

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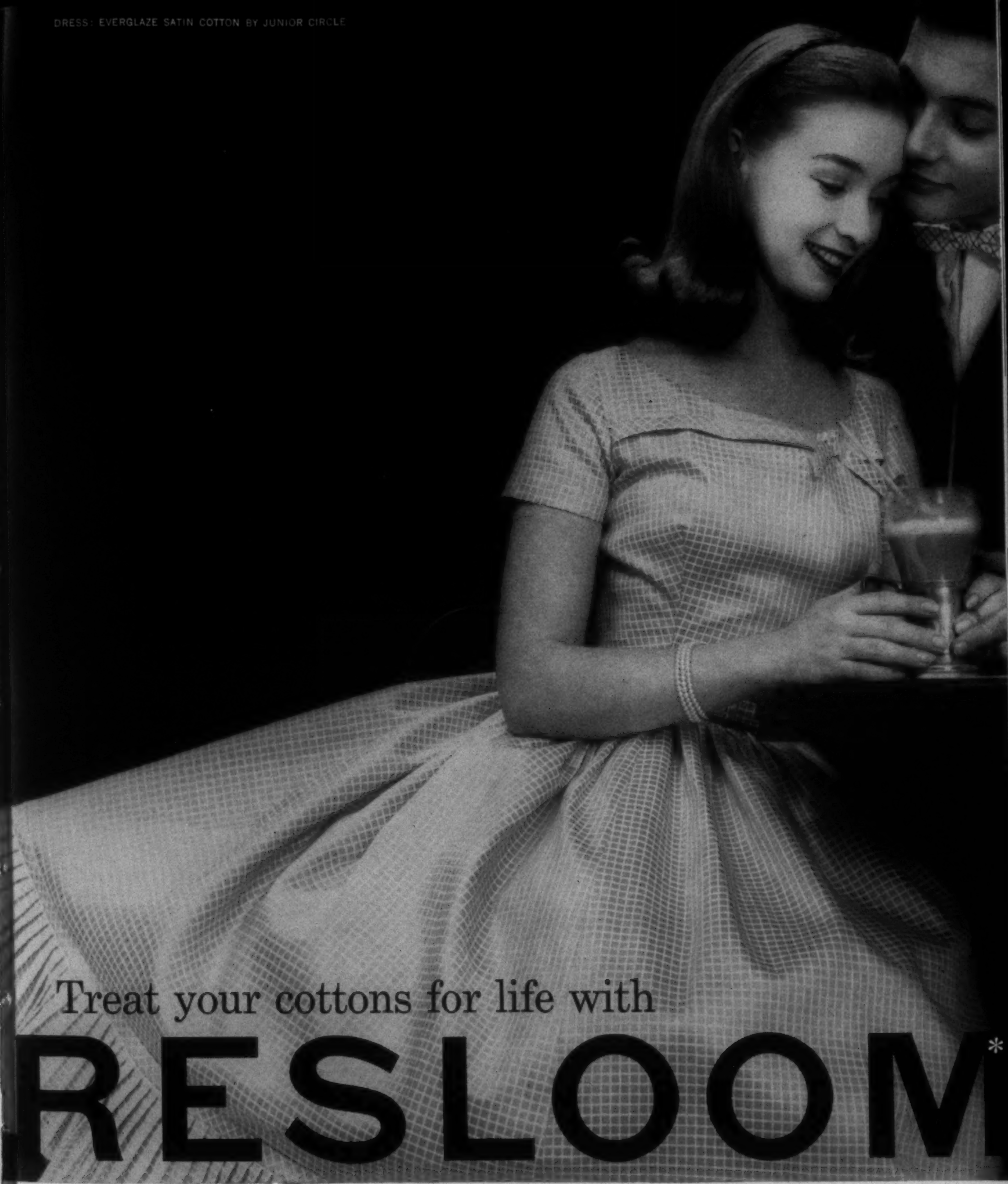
Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS


DRESS: EVERGLAZE SATIN COTTON BY JUNIOR CIRCLE

Treat your cottons for life with

RESLOOM*

Supplied by Monsanto in both melamine and cyclic urea types

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*RESLOOM: REG. U. S. PAT. OFF.

For finishes requiring a melamine resin, top results are obtained with Resloom HP or M-75. For finishes requiring a cyclic-urea formaldehyde, Resloom E-50 meets the most exacting standards.

Still other finishes are obtained with outstanding success by using a "blend" of the two types.

All of Monsanto's Resloom textile resins have this in common: They impart a finish that does not wash out. Treated cottons keep their dimensional stability and wrinkle recovery for life.

The reason is simple. Resloom resins do more than coat the surface. They are deposited inside absorbent fibers where they actually modify fiber characteristics.

Get impartial counsel. A Monsanto representative will be glad to work with you on your cotton finishing problems. Write Monsanto Chemical Company, Plastics Division, Room 1016, Springfield 2, Massachusetts.

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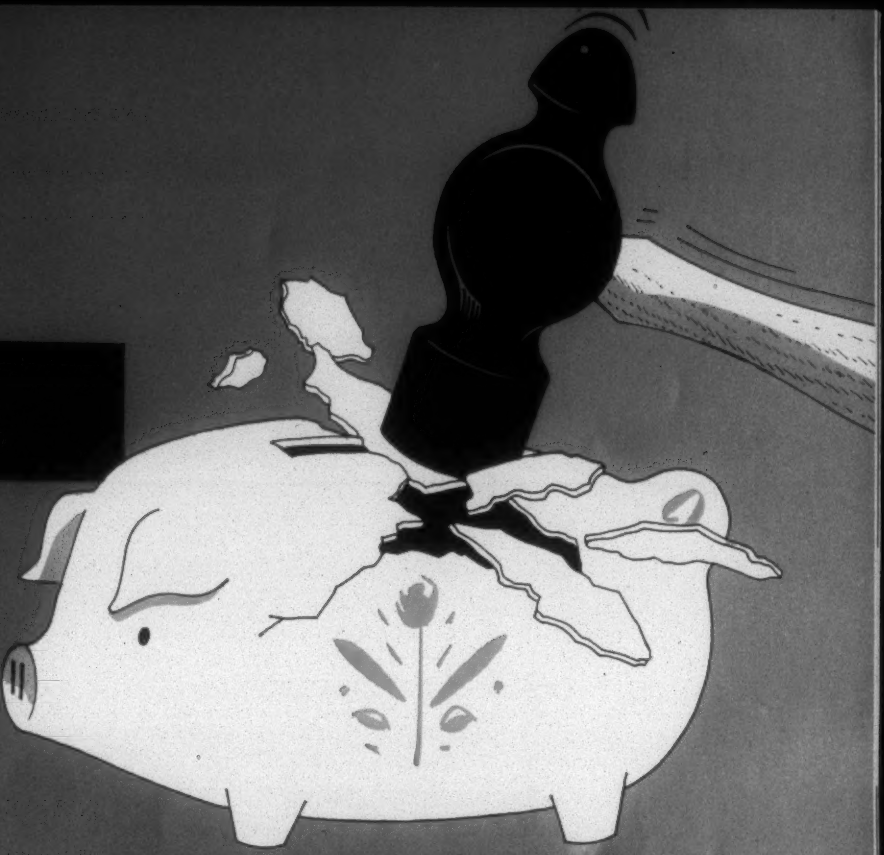

You naturally know that

CAST IRON

is almost as brittle as a "PIGGY BANK"!

But do you know that it would wipe out all your expected savings **to pay for the cast iron replacement parts for your looms?**

Perhaps you thought cast iron parts economical — just because the initial cost is low? The **facts** are to the contrary!

Actually, **HFL** *Improved*

LOOM PARTS

made of malleable iron,

because of their **exceptionally long life,** will cost you **less** than cast iron replacement parts!

HFL Improved Loom Parts *are better because they are* **better engineered,** *as well as being made of better materials.*

IT'S FREE: Write for the easy-to-use HFL Catalog of Improved Loom Parts, and state whether you are weaving cotton, wool, or silk and synthetics.

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ESTABLISHED 1887

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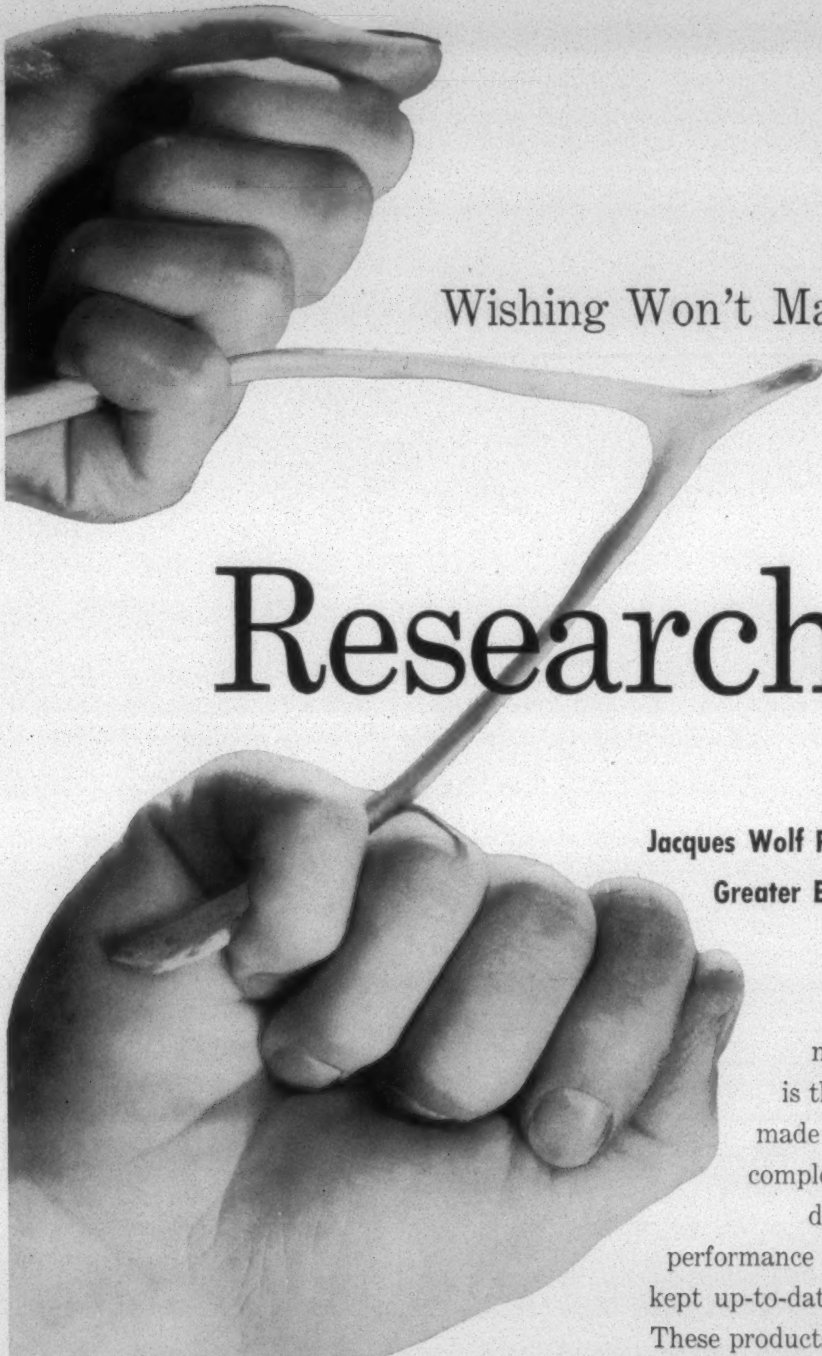

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These outstanding firms—in 36 countries—are helping to maintain a world-wide standard of textile performance by their participation in a *world-wide program of uniform shrinkage control.*

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And now, gentlemen, our "Sanforized" licensees . . .

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TEXTILOSES & TEXTILES S.A.	Milano
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KUREHA SPINNING CO., LTD.	Osaka
TOYO SEN-I CO., LTD.	Tokyo
FUJI SPINNING CO., LTD.	Tokyo
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ICHISHIN BLEACHING CO., LTD.	Osaka, Pref.
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DAIDO DYEING COMPANY, LTD.	Kyoto
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CIA. INDUSTRIAL TEXTIL ANAHUAC, S.A.	Puebla, Puebla
CIA. INDUSTRIAL MANUFACTURERA DE ATLIXCO, S.A.	Atlixco, Puebla
CIA. INDUSTRIAL DE PARRAS, S.A.	Parras, Coahuila
CIA. INDUSTRIAL DE SAN ANTONIO ABAD, S.A.	Mexico, D.F.
CIA. INDUSTRIAL VERACRUZANA, S.A.	Ciudad Mendoza, Ver.
EL GLOBO, S.A.	Atzcapotzalco, Mexico, D.F.
ELSA, S.A.	Coyoacan, Mexico, D.F.
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NACIONAL TEXTIL MANUFACTURERA, S.A.	Guadalajara, Jalisco
TEXTILES MONTERREY, S.A.	Monterrey, N. L.

NORWAY

A/S DALE FABRIKKER	Bergen
A/S HJULA VEVERIER	Oslo
HALDENS BOMULDSSPINDERI & VAEVERI	Halden

PERU

COMPANIAS UNIDAS VITARTE, VICTORIA, INCA, S.A.	Lima
FABRICA DE TEJIDOS "LA UNION" LTDA.	Lima

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NATIONAL DEVELOPMENT COMPANY	Manila

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MANUFAKTUR AKTIE BOLAGET I MALMÖ	Malmö
MÖLNYLCKE VÄFVERIAKTIEBOLAG	Göteborg
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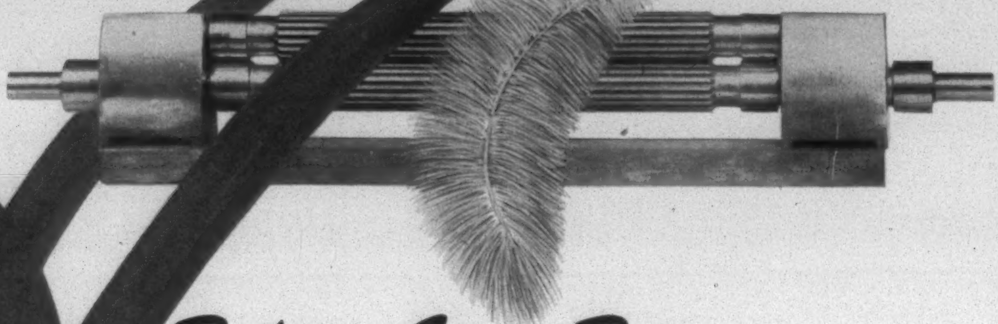

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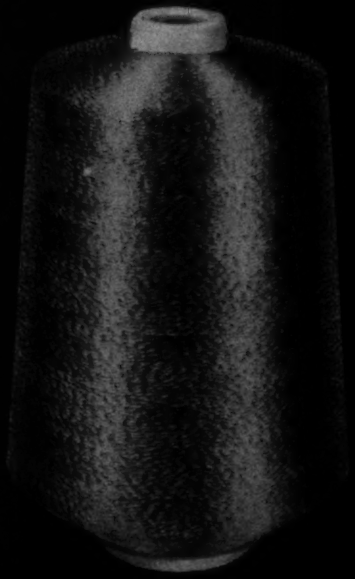

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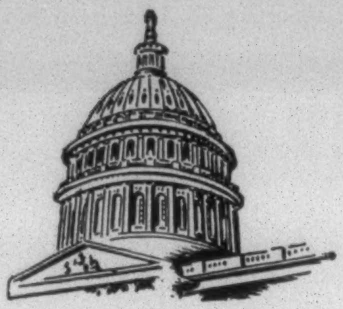


WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

An unusual number of "pie in the sky promises of easy life and unearned profits" are among the bills pouring into the House in this new session of Congress. Many of them are only empty "something for nothing" promises of the welfare state. In nearly every case they imply steady tax increases, a national debt more staggering in its dimensions, and a constant threat to business and industrial security and well-being.

The Teamsters' Union is set for a series of organizing drives that will parallel the recruiting efforts of all other merged unions combined. With 1.5 million members, paying $2.50 a month, the teamsters have a huge war chest by which they propose that all workers in any industry whose products move in any way by truck shall come into their union. If they succeed, a new federation within the merged A.F.L.-C.I.O. will be set up.

Something less than enthusiasm has greeted the statement that Labor's Meany and N.A.M. Chieftain Sligh will engage in joint conferences. Meany is intent on breaking down employer support of state right-to-work laws. If he should win concessions only on this point, it would be counted as a huge victory for the unionists. The prime union objective is to deprive the states of more of their powers and functions.

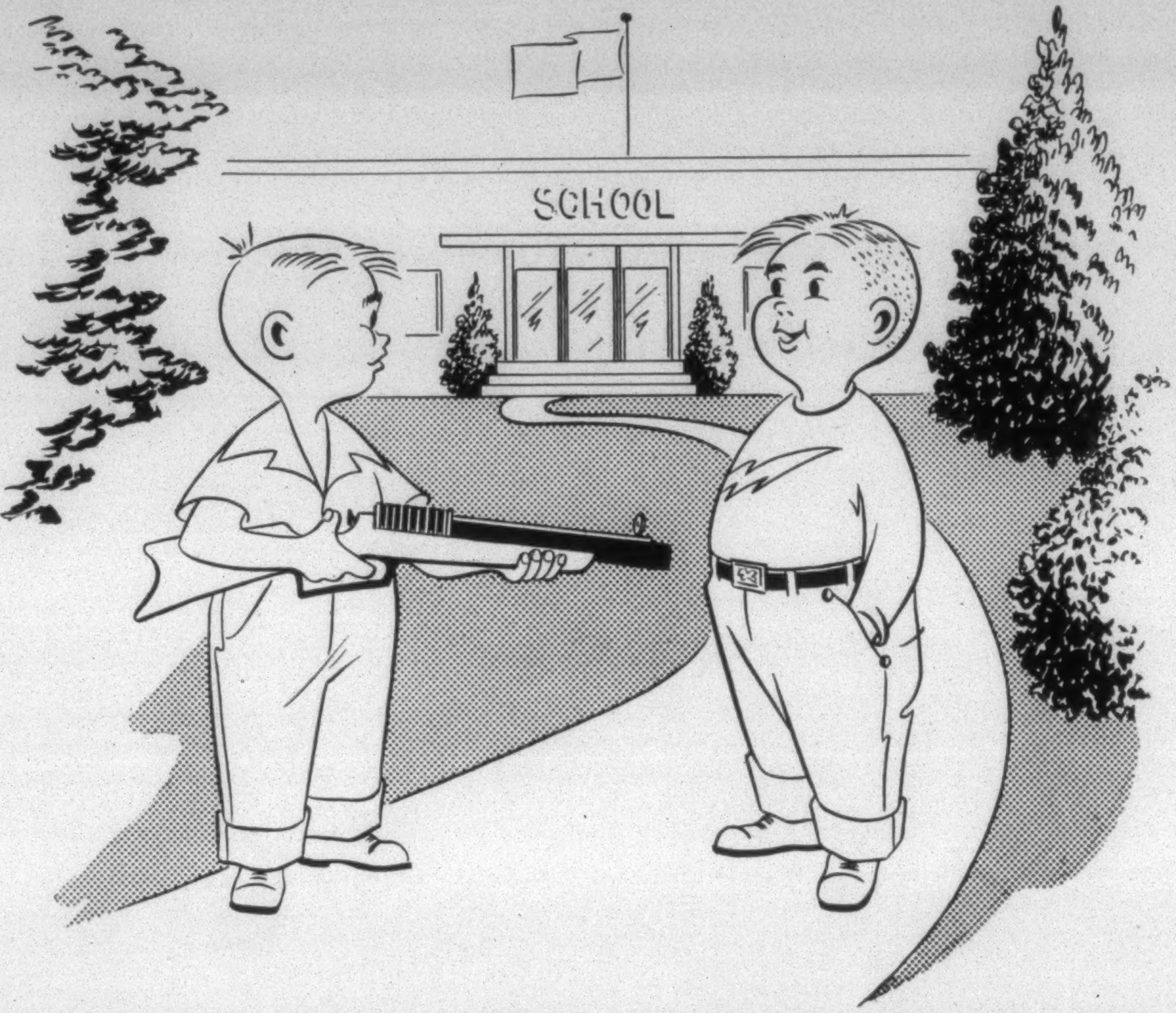
Broad authority over requiring periodic reports of all union welfare and pension funds is given to the Secretary of Labor under the bill before the Senate. Full financial accountings to the Secretary would be required, and he may prescribe what other information must be filed, and in what form. And he may use this information for statistical and research purposes, and to publish such studies and surveys as he wants to do.

Passage of the regulatory bill, sponsored by Senators Ives (R., N. Y.) and Allott (R., Col.), is doubtful. It is pointed out that it would not accomplish much through reporting expenditures without giving regulation and supervision.

Congress is asked to tighten the Corrupt Practices Ast to prohibit unrestrained spending of union funds for candidates for federal office. A federal district court in Michigan ruled the law does not bar unions from spending money in this manner. Senators Curtis (R., Neb.) and Goldwater (R., Ariz.) put in a bill to assure that union dues and funds, which workers are compelled to pay to hold jobs, shall not be spent for political purposes.

The Curtis-Goldwater bill is certain to bring on a titanic struggle by union leaders to escape its effects. Squandering union funds in support of candidates aligned with union bosses has grown by leaps since the war. The bill would require that a union before entering into a union shop contract should file an affidavit with the Labor Department denying any such political contribution or expenditure within the preceding 24 months.

President Meany of the combined A.F.L.-C.I.O. has denied that his group has a blacklist of House and Senate members to be defeated this Fall. It has long



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1926 "IF IT'S PAPER" 1956

been the custom of both groups to issue a compendium of the "voting records" of House and Senate members on ten controversial points in which the unions had a direct interest, and to indicate that a vote for or against those things was inimical to union labor. That practice is being followed again this year.

The Department of Labor is reminding employers that the new $1 minimum wage rate becomes effective March 1. The law applies to employees engaged in goods going into interstate commerce on and after March 1. The higher wage rate was enacted by Congress in the last session.

It is going to be a little harder to escape payment of just federal taxes, the Internal Revenue Service asserts. Last year 606 persons were convicted of not paying all taxes they should have. The service has added about 10,000 employees to check income tax returns, including those in the lowest brackets.

Federal aid to depressed employment areas is meeting with some strong opposition in New England states, which want new plants rather than aid. Complaint is that aid will not attract and hold employers in the field, and that community resources must be built up through a better "business climate." New Englanders are demandng new and vigorous industrial development programs that will solve unemployment as well as other problems.

The Farmers' Union and other "liberal" groups among farmers are appealing to the A.F.L.-C.I.O. for organizing funds. The organizing budget as drawn up for the coming year grants nothing for organizing farmers and farm workers, but concentrates on such industries as textiles, chemicals, oil and woodworking. The A.F.L. formerly granted a subsidy to farm groups, but cut it off two years ago.

Growing competition with industries in this country from abroad is bringing an increasing volume of complaints to Congress. The contention is that that foreign economic aid given away by this country has produced a world-wide chain of new industries, in steel, chemicals, chinaware, to say nothing of textile products of all kinds, that are pushing American products out of foreign markets, and threatening a new wave of imports into this country.

Foreign economic aid is in for more rough sledding in this session of Congress, with top-ranking Senator George opposed to long-term commitments. While the President has prescribed a ten-year program for continuance, Senator George and his associates say they are opposed to more than a one-year program, with a careful examination of intended commitments to every country. Appalling stories of waste abroad are told by legislators returning from Summer vacations abroad.

A.F.L.-C.I.O. chiefs have issued a blast against the "Citizens Councils" springing up in Southern states, and call for federal action against them. The unions contend there is a close link between these groups and "the drive to weaken and destroy unions."

The civil rights question is coming to the front as a prime issue in this year's campaign, with the A.D.A. and New Dealers in the forefront of it. Democratic leaders are fearful of the outcome, and moving to avoid a wide-open party split between North and South. They are eagerly searching for middle ground, preferably to unload responsibility on the President to "administer the matter in harmony with the laws and the Supreme Court decision."

Republican leaders are concerned, too, over growing criticism of failure to "sweep socialism and the remains of Trumanism" out of Washington. The government is still heavily infested with dictorcrats and bureaucrats who belonged to the New and Fair Deals. Some of them are in high places; just as often they are blanketed under civil service, and removal is difficult.

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Vol. 82 February 1956 No. 2

textile bulletin

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Assistant Editor . . . . R. H. HOOD
Inquiry & Reader Service . . . . EMILY KERNS

TEXTILE BULLETIN IS PUBLISHED MONTHLY BY

CLARK PUBLISHING COMPANY
P. O. Box 1225 • CHARLOTTE, N. C. • Telephone ED 3-3173
— Offices and Plant: 218 West Morehead Street, Charlotte 6 —

JUNIUS M. SMITH . . . . *President and General Manager*
F. R. CAREY . . . . . *Vice-President and Eastern Manager*
(P. O. Box 133, Providence, R. I.—Telephone Williams 1-3957)
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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; three years payable in advance, $3.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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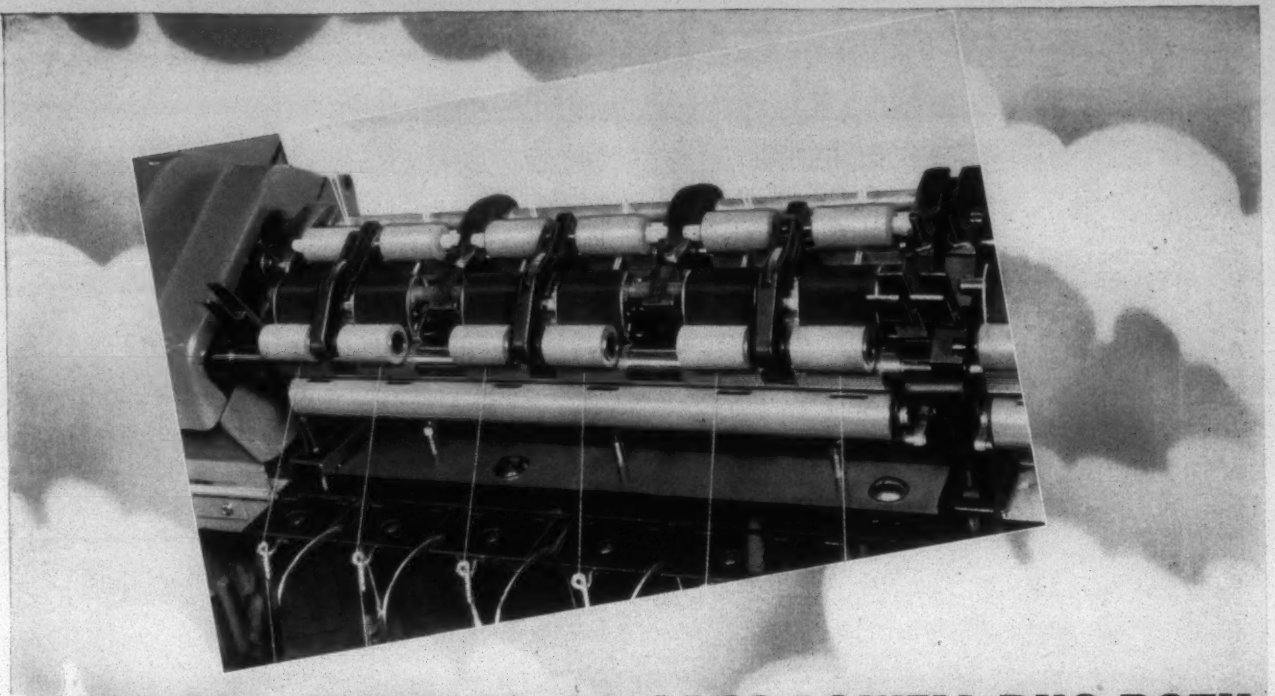
'Ay, There, Look Grim As Hell!'

> Had it pleas'd heaven
> To try me with affliction, had he rain'd
> All kinds of sores, and shames, on my bare head,
> Steep'd me in poverty to the very lips,
> Given to captivity me and my utmost hopes,
> I should have found in some part of my soul
> A drop of patience; but alas! to make me
> The fixed figure for the time of scorn
> To point his slow and moving finger at;
> Yet could I bear that too; well, very well.
> But there, where I have garner'd up my heart,
> Where either I must live or bear no life,
> The fountain from the which my current runs
> Or else dries up; to be discarded thence!
> Or keep it as a cistern for foul toads
> To know and gender in! Turn thy complexion there,
> Patience, thou young and rose-lipp'd cherubin;
> Ay, there, look grim as hell!
>
> —*Othello,* WILLIAM SHAKESPEARE

Being literary in respect to the critical tariff and import quota situation which faces the textile industry seems a little odd. Actually we were merely using a standard writer's crutch in searching a dictionary of quotations for something to tie in with the word "grim," which is the most applicable adjective for the present predicament. We thus ran across the above passage from *Othello,* and were struck by its appropriate wording. Read it again; most singular! Textile man, "look grim as hell" when you think about international trade.

We can't remember any occasion in the past decade when the textile industry has acted in such concert. Industry trade associations have done their utmost to lead the government by its bureaucratic hand to some solution; sympathetic Senators and Representatives have worked hard; even labor unions for once have talked the same line as management. The National Cotton Council, because of diverse interests within its membership which were hard to reconcile, was the last of the major farm groups to formally join our camp. It has been reported that spinners representing a yearly consumption of something like five million bales of cotton were on hand at the recent Cotton Council meeting in Biloxi. Here was graphic evidence to the raw cotton trade that its principal, and single really loyal, customer meant business on the tariff problem; here was real reason to "root hog" or face slow death.

So, everyone is lined up except the government. Industry representatives have been to the State Department, to the Justice Department, to Labor and to Commerce. About the only reaction has been a raised eyebrow. State has barely acknowledged the problem, but meanwhile sends its representatives off on new tariff-cutting jaunts. Justice continues its opinion that any quota agreements arrived at between Japanese and American industrialists—even with the Japanese apparently eager to arrange some kind of status quo—will be illegal. The Labor Department has looked the other



1,250,000 SPINDLES OF SACO-LOWELL DUO-ROTH —BOTH STANDARD AND STAY-CLEAN*—

are now in operation producing higher quality, stronger, more even yarn in over 280 mills.

1. The long, thin, flexible bottom apron passes the nose of the apron bar with a small radius of curvature in a manner which allows a close setting between the nip of the aprons and nip of the front roll, a condition necessary for the most efficient fibre control in the final drafting zone.

2. Without exception, mills using the Duo-Roth System have increased their drafts as much as 50 to 100 per cent, and at the same time have produced a yarn of greater strength and evenness.

3. The greater strength and evenness is vividly shown in a Duo-Roth installation producing 21's yarn from .75 hank single roving, employing a 4.52 twist multiple — the break factor secured is 2339. Previously, the same frames running regular drafting were producing 21's yarn from 1.50 hank single. With same twist multiple highest break factor obtainable was 2104.

4. Duo-Roth is cleaner; there is a reduction in clearer waste as the shorter fibres are efficiently controlled. After raising the draft from 19 on Roth to 33 on the Duo-Roth, one mill was able to extend the top roll cleaning period from 24 hours to 48 hours, on a three-shift basis. Another mill, with a 50 per cent increase in draft after changing to Duo-Roth, also extended the top roll cleaning period from 24 hours to 48 hours.

5. Duo-Roth was engineered to be a simple, quickly applied change-over to existing Roth installations. Mills having Roth frames in good condition will find that Duo-Roth will pay for itself in savings resulting from increased draft, reduced cleaning, improved operating conditions and smoother, stronger yarns.

6. Duo-Roth is the only double-apron drafting system which does not develop wear of the cage against the apron driving roll. The standard Duo-Roth middle top roll, driving the apron, is built with a stationary arbor. The cage rests against the stationary arbor, eliminating the possibility of cage wear — a common problem with other systems.

7. The knurled and polished surface of the Saco-Lowell Duo-Roth middle top roll creates a positive and uniform drive for the aprons. Since both of the driving bosses are tied together, there is no variation in the speed of the top roll aprons regardless of the bulk of the strand being drafted. There is no slip or hesitation to create unfavorable conditions in the principal drafting zone.

8. The Duo-Roth, with the adjustable cage is extremely flexible. The correct pressure to establish the necessary degree of fibre control for the most efficient drafting can be quickly attained through easy adjustments.

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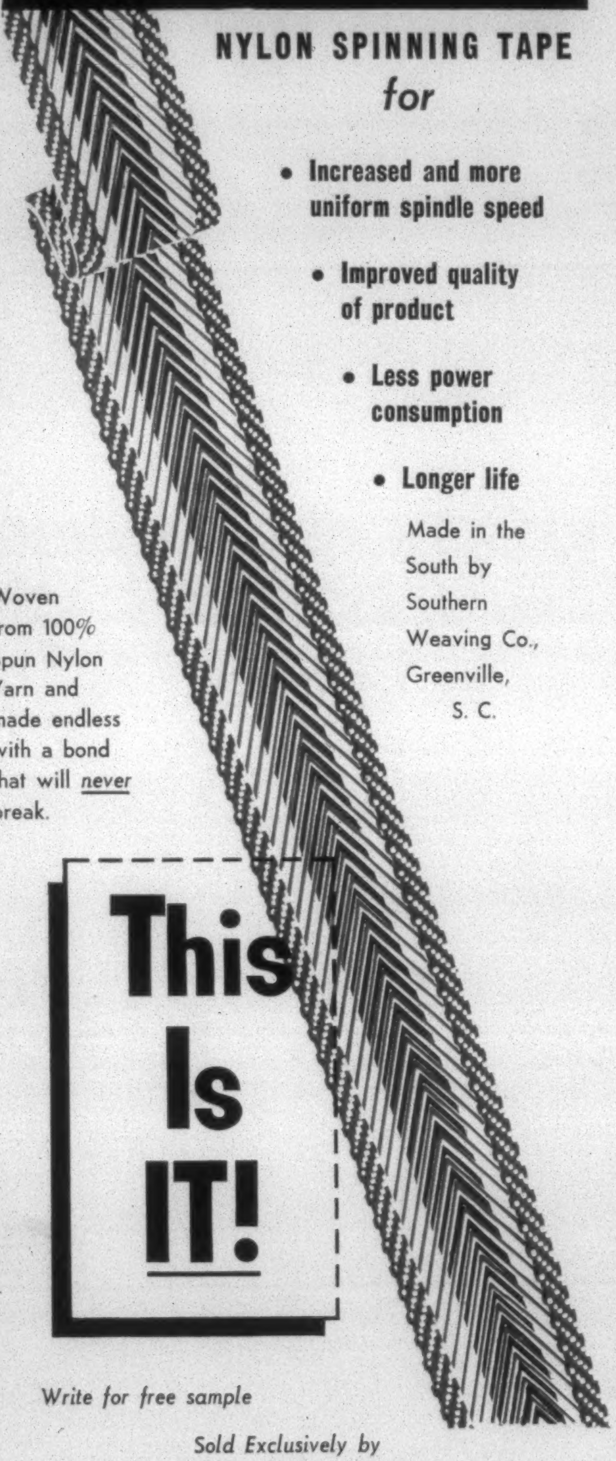

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way when alerted to the fact that thousands of American jobs are in jeopardy. Commerce Department officials run their mouths about Gay '90s "peril point" legislation.

In essence, then, it remains for interested legislators to try to ram something through Congress. Right now we wouldn't bet too much on their ultimate success. Congress may be convinced that quota legislation is in order, but this can be accomplished only with the votes of many, many representatives whose home states are remote to textile problems. Assume, however, that they can be sold, and so vote with us. Beyond that there is the assurance that such legislation will be vetoed by the White House. The final test will be when representatives from non-textile states face up to the Presidential veto. Will they run for cover, feeling that they have discharged their obligations, or will they stick it out?

Indeed, "look grim as hell." But be determined in grimness. Continued determination offers the only chance of success.

Displaced Industry

What happens when one community takes a big industry away from another? There has just come to our attention an article by Hodding Carter, editor of the *Delta Democrat-Times* in Greenville, Miss., in the March issue of *Reader's Digest* under the title of "An Industry Moves South." It's the story of Alexander Smith closing down an unprofitable carpet manufacturing operation in Yonkers, N. Y., and building what is probably the nation's most modern carpet mill right amid the cotton fields around the Delta town of Greenville.

Well, it's a mighty familiar story—what happens to a Southern town when a big textile plant comes in. The economic benefits sometimes seem almost incredible. It's happened so many times in the Piedmont or the so-called "Textile South," and lately some of these big plants are being built a considerable distance away from the traditional textile centers, where the first mills were established because of the need of water power. Just about now, for instance, Amerotron is finishing its brand new $10,000,000 woolen mill in Barnwell, S. C., after recently selling ten woolen mills in New England and one in Louisville, Ky. The new mill is to provide jobs for around a thousand employees and an annual $3,000,000 payroll in a predominantly hitherto agricultural community.

As we remarked, it's rather an old, familiar story—but one which we like to hear. However, our purpose in mentioning the *Reader's Digest* article is that it goes much further than telling the old familiar story. It tells what happened to the industrial climate in the cotton and cattle town of Greenville, Miss.; but it goes much beyond that and tells what happened back in Yonkers, N. Y., whose 300 industries make it more or less representative of the concentration of industry in the northeastern part of the nation. Mr. Carter took some time off from his job of editing his newspaper in Greenville and went up to Yonkers to talk to editors, industrialists, labor leaders, housewives and the mythical "man-in-the-street" to discover for himself just how the City of Yonkers had been affected.

What he found might cause one to raise an eyebrow at some of the reports which emanate from some communities in the East every time that an important industry relocates in the more hospitable and compatible climate of the South. Alexander Smith, it will be recalled, decided to move everything from Yonkers to its new mill in Greenville when the Yonkers mill was on strike and company spokesmen said that the company could not meet the union's new wage and other demands. The union described the economic tragedy with big advertisements in the New York City newspapers.

A union survey reported that the "pirating" of plants caused "unemployment, economic dislocation and sectional bitterness," and so on. The picture that one was led to conjure was a desolate one of economic tragedy and unemployment. But Mr. Carter reports that when he went to Yonkers last Summer he found evidence of none of that sort of thing. Instead, he reports, he found a heartwarming story of community co-operation to minimize the economic shock and also that Alexander Smith's departure had brought about some healthy changes in the behavior of labor, management and government in Yonkers.

Most of the displaced workers found jobs in Yonkers and the newly-organized Community Council for Economic Development, formed by the community's industrial, labor, business and professional leaders, got busy and before long the space formerly occupied by Alexander Smith was housing an assortment of small industries. But the real significant thing is that the Alexander Smith departure created a new industrial climate in the old industrial city which Mr. Carter goes on to relate in detail in his article.

Briefly, the unions became agreeable to certain obviously desirable changes; the city agreed to more lenient tax valuation, and so on. After reading the details in Mr. Carter's article, one is led to the inescapable conclusion that Alexander Smith, in moving its Yonkers operations to the Mississippi cotton fields, not only created a more abundant life for the people of Greenville, Miss., and its environs, but performed a service for the City of Yonkers in bringing upon it an awareness of certain shortcomings.

Clothing The Military, Headwork Div.

The ways of officialdom are sometimes peculiar. Particularly when you find one branch of government doing something which is quite incongruous to action of another branch. Perhaps a "right hand, left hand" comparison is not in order, and our puzzlement should be based on an inability to figure out what the various fingers are doing.

A good case in point of government branches not know-

TEXTILE INDUSTRY SCHEDULE

— 1956 —

*Mar. 1-2 (Th-F)—Conference on electrical application for the textile industry, **TEXTILE INDUSTRY SUBCOMMITTEE, AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS**, Hightower Textile Building, Georgia Institute of Technology, Atlanta.

*Mar. 2 (F)—Tax forum, **A.C.M.I.**, Barringer Hotel, Charlotte, N. C.

Mar. 7-8 (W-Th)—**COTTON SPINNER-BREEDER CONFERENCE** (sponsored by Delta Council, with Combed Yarn Spinners Assn. and A.C.M.I. as hosts), Charlotte Hotel, Charlotte, N. C.

Mar. 13-16 (Tu-F)—**COMMITTEE D-13 ON TEXTILES, A.S.T.M.**, Warwick Hotel, New York City.

*Mar. 19-21 (M-W)—Spring meeting, **NATIONAL COUNCIL FOR TEXTILE EDUCATION**, Summit (N. J.) Research Laboratories, Celanese Corp. of America.

Mar. 22-23 (Th-F)—Annual meeting, **TEXTILE RESEARCH INSTITUTE**, Commodore Hotel, New York City.

Mar. 22-23 (Th-F)—**SOUTHERN TEXTILE METHODS AND STANDARDS ASSN.**, Clemson House, Clemson, S. C.

Apr. 5-6 (Th-F)—Spring meeting, **CAROLINAS SEC., AMERICAN SOCIETY FOR QUALITY CONTROL**, Clemson House, Clemson, S. C.

Apr. 5-7 (Th-Sa)—Annual meeting, **A.C.M.I.**, Hollywood Beach Hotel, Hollywood, Fla.

Apr. 7 (Sa)—**PIEDMONT SEC., A.A.T.C.C.**, Sir Walter Hotel, Raleigh, N. C.

Apr. 9-12 (M-Th)—**NATIONAL PACKAGING EXPOSITION** (in conjunction with packaging conference of American Management Assn.), Atlantic City (N. J.) Auditorium.

Apr. 11-13 (W-F)—Annual convention, **ALABAMA COTTON MFRS. ASSN.**, Buena Vista Hotel, Biloxi, Miss.

Apr. 19-21 (Th-Sa)—Annual convention, **PHI PSI FRATERNITY**, Alabama Polytechnic Institute, Auburn.

*Apr. 21 (Sa)—**TEXTILE OPERATING EXECUTIVES OF GEORGIA**, Hightower Textile Building, Georgia Institute of Technology, Atlanta.

Apr. 25-28 (W-Sa)—Annual convention, **COTTON MFRS. ASSN. OF GEORGIA**, Emerald Beach Hotel, Nassau, Bahama Islands, British West Indies.

Apr. 27 (F)—**SOUTH CAROLINA DIV., S.T.A.** (Pelzer Mills as host), Pelzer, S. C.

Apr. 27-28 (F-Sa)—Annual convention, **DELTA KAPPA PHI FRATERNITY**, Atlanta, Ga.

May 2-3 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Clemson House, Clemson, S. C.

May 2-4 (W-F)—Industrial safety conference, **NORTH CAROLINA INDUSTRIAL COMMISSION**, Charlotte (N. C.) Hotel.

‡May 5 (Sa)—**PIEDMONT DIV., S.T.A.**, Catawba Country Club, Hickory, N. C.

May 9-11 (W-F)—Insurance conference, **A.M.A.**, Hotel Roosevelt, New York City.

‡May 12 (Sa)—**NORTHERN NORTH CAROLINA-VIRGINIA DIV., S.T.A.**

May 23-25 (W-F)—General management conference, **AMERICAN MANAGEMENT ASSN.**, Hotel Roosevelt, New York City.

May 31-June 2 (Th-Sa)—**SOUTH CAROLINA TEXTILE MFRS. ASSN.**, The Cloister, Sea Island, Ga.

June 5-8 (Tu-F)—**MATERIALS HANDLING INSTITUTE EXPOSITION**, Cleveland (Ohio) Public Auditorium.

*June 8-9 (F-S)—**COTTON BUYERS & CLASSERS DIV., N.C.T.M.A.**, Grove Park Inn, Asheville, N. C.

June 8-9 (F-Sa)—Annual outing, **PIEDMONT SEC., A.A.T.C.C.**, Mayview Manor, Blowing Rock, N. C.

June 17-22 (Su-F)—Annual meeting (in conjunction with apparatus exhibit), **A.S.T.M.**, Chalfonte-Haddon Hall, Atlantic City, N. J.

June 21-23 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, Mayview Manor and Green Park Hotel, Blowing Rock, N. C

Sept. 6-7 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Warwick Hotel, New York City.

Sept. 10-15 (M-Sa)—**PERKIN CENTENNIAL** (sponsored by various professional societies and trade associations), Waldorf-Astoria Hotel, New York City.

Sept. 13-15 (Th-Sa)—National convention, **A.A.T.C.C.**, Waldorf-Astoria Hotel, New York City.

Sept. 27-28 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSN.**, Cavalier Hotel, Virginia Beach, Va.

Oct. 1-5 (M-F)—19th **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 6 (Sa)—Annual meeting, **PIEDMONT SEC., A.A.T.C.C.**, Charlotte (N. C.) Hotel.

Oct. 11-12 (Th-F)—Annual meeting, **NORTH CAROLINA TEXTILE MFRS. ASSN.**, The Carolina, Pinehurst, N. C.

Oct. 16-19 (Tu-F)—**COMMITTEE D-13 ON TEXTILES, AMERICAN SOCIETY FOR TESTING MATERIALS**, Warwick Hotel, New York City.

Nov. 27-30 (Tu-F)—**NATIONAL CHEMICAL EXPOSITION** (under auspices of American Chemical Society), Cleveland (Ohio) Public Auditorium.

— 1957 —

Apr. 4-6 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

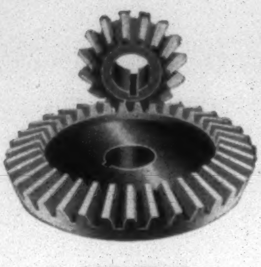
‡Fall—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Boston, Mass.

Listed for the first time this month. ***‡Tentative listing.*** ***†Changed or corrected from previous issue.***

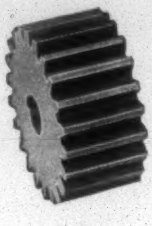
(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

GEARS TO YOUR SPECIFICATIONS

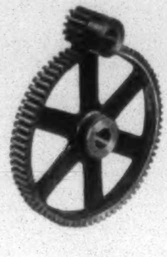
BY FERGUSON



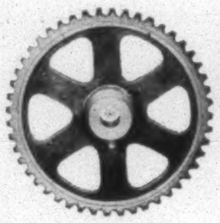
BEVEL GEARS & PINIONS



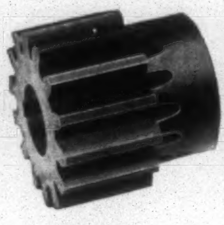
STEEL PINIONS



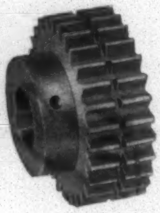
SPUR GEARS



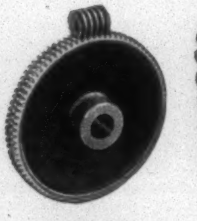
ROLLER CHAINS & SPROCKETS



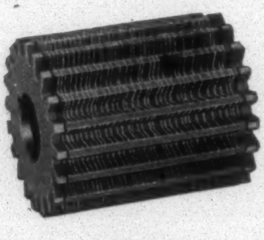
BAKELITE GEARS



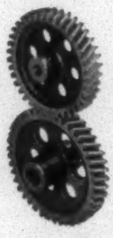
SILENT CHAINS & SPROCKETS



WORMS & WORM GEARS



RAWHIDE GEARS



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ing what other federal outfits are doing has come to our attention. We were right distressed all last year to read about the goings-on at the old A.S.T.A.P.A. (Armed Services Textile and Apparel Procurement Agency), which labored alphabetically in New York City from Oct. 1, 1952 to Oct. 31, 1953, spending some $537 million in those 13 months. What distressed us was a report coming from the United States Senate Permanent Subcommittee on Investigations of the Committee on Government Operations—again a long title, but folks in Washington like them—which was prefaced:

> Evidence presented before the subcommittee showed that unscrupulous contractors had bribed both civilian and military personnel attached to the Armed Services Textile and Apparel Procurement Agency to obtain contractual favors and to pass defective material on inspection.

Further, according to the chairman, Senator John L. McClellan of Arkansas, "That in the light of the evidence before the subcommittee studies were made which showed that the contractors involved, including Harry Lev and his affiliate companies, owed the Government over a half million dollars because of deviations in the terms of the contracts and the delivery of defective material."

No need to bother going into all of Lev business—there's no levity in it—unless you have a gruesome bent. We must have had such an inclination, because one day we read all 46 pages of the printed committee report, entitled "Textile Procurement in the Military Services," and dated Jan. 13, 1956. "Gross" would be an insufficient adjective to describe the behavior recounted. Mr. Lev and his associates, by the way, were making caps for the Navy.

Sailor hats are somewhat remote from spindles and looms, so don't read the whole business unless you sincerely want to get in a bad humor. Mr. Lev was nailed, and nailed good—be satisfied about that.

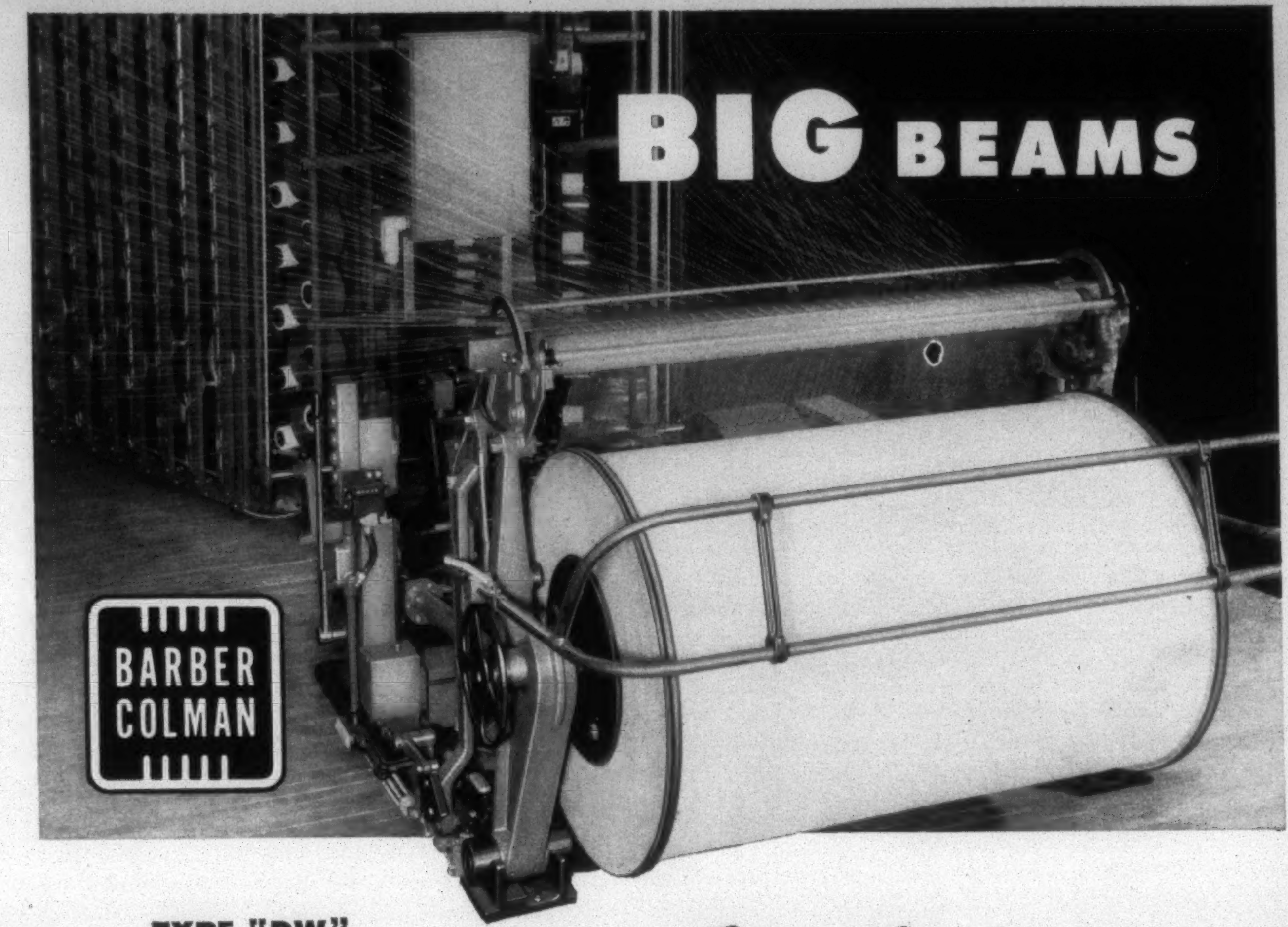
As the result of investigation, the Department of Defense took disciplinary action against certain individuals and contractors, including Harry Lev, Maurice Ades, Federal Mfg. Corp., Mid-City Uniform Co. Inc., and Spencer Mfg. Co. Inc., all compatriots in the Lev business back in 1952.

Their operations centered in Puerto Rico. They seem to still be active. Just recently Federal Mfg. Corp., whose production manager is Maurice Ades, applied to the Puerto Rican Government for one of those tax exemption deals so that the "new" company could manufacture cotton utility caps for the Army. It also seems that Mr. Ades had interest in the former Spencer Mfg. Co., an affiliate of Mid-City Cap Co.

By now, you, probably like us, are thoroughly mixed up by all of these corporate names, but not nearly so much as the procurement officials who manage to continue doing business with outfits that have been blackballed by a Senate committee.

Po' Relations No Longer?

Notch by notch, the gap between the South's per capita income and the national average narrows, and this trend continued in 1955, the Atlanta Federal Reserve Bank reports, even though it concedes the region faces a serious



TYPE "DW" *Super-Speed* WARPER

40"-head BEAMS REDUCE COSTS

Using 24s yarn as an example, the new Type "D" 6-pound cheese holds 120,000 yards. A 40"-head section beam of 529 ends weighs 1,050 lbs. and holds 40,000 yards, resulting in 3 beams per cheese and reducing warper loadings accordingly. In the slashing, assuming 1200-yard loom beams, a 40"-head section beam will produce 39 loom beams per set, for an average of only 3.16 slasher creelings per 120-hour week.

The new Barber-Colman Type "DW" Warper, shown above, has all the features of the familiar Type "VW" plus several new ones. A pivoted support moves the comb forward as the beam fills. The driving drum, clutch, brake, and motor are now arranged back of, rather than beneath, the beam. Construction throughout is larger and stronger, to handle the heavier loads of which this warper is capable. The Type "DW" Warper will wind slasher beams as large as 40" head. *For further details, please write for descriptive literature, or ask your Barber-Colman representative.*

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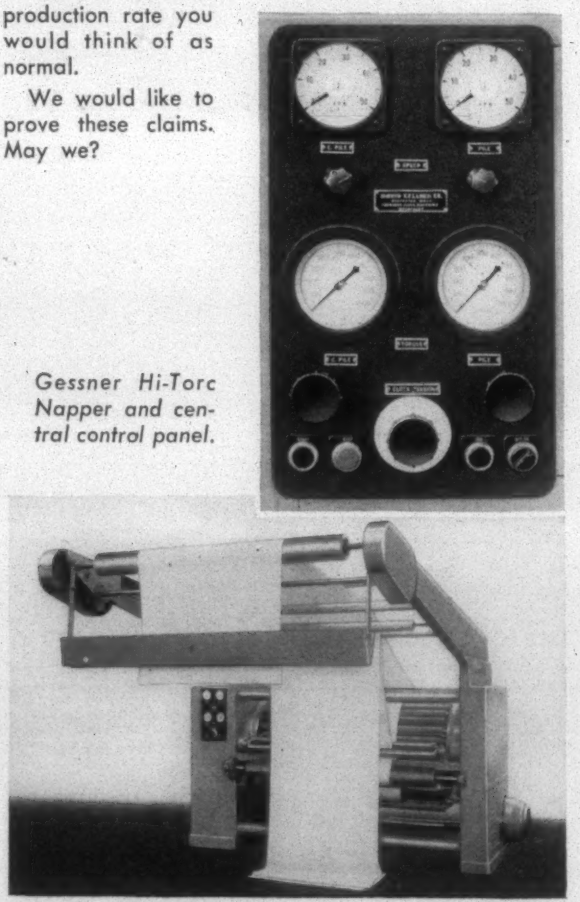

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Gessner takes the guesswork out of napping.

problem in the mounting cotton surplus and the continued rapid loss of this commodity's historic export markets.

While an agricultural slump affected the Sixth Federal Reserve District's economic picture in 1955, most of its increased income from manufacturing came through the utilization of existing productive capacity, and textiles afforded an outstanding illustration of this, according to the bank's *Monthly Review*.

Both textile and lumber manufacturers in the district reduced their work forces in 1954 in response to declining demands for their products. As the market improved in 1955, however, they expanded operations and added employees, so that on an average they employed two per cent more workers than in 1954.

Contingent upon trends in the nation's economy, and if the agricultural situation improves, the year 1956 can well be one for the region of further catching up with the national income level, according to the bank's analysis, prepared by Economist Charles T. Taylor.

But it is noted that the two most important developments affecting the national trend are whether or not the current national boom widens more into non-durable production, particularly in textiles, which constitute the major manufacturing industry of the South, and the extent to which planned plant expansion contributes to industrial growth.

The analysis by the Atlanta Federal Reserve makes preliminary estimates which show that personal income in the district was six to seven per cent greater in 1955 than in 1954, whereas it grew from only five to six per cent in the nation as a whole, according to U. S. Department of Commerce estimates.

Economic changes for a quarter century have been helping this part of the South in "catching up" to the national income level of the nation, even though the economy of the nation itself has been rapidly and constantly becoming more productive, particularly in the post-war period. Nevertheless the year 1955 was a banner one in this respect for the South.

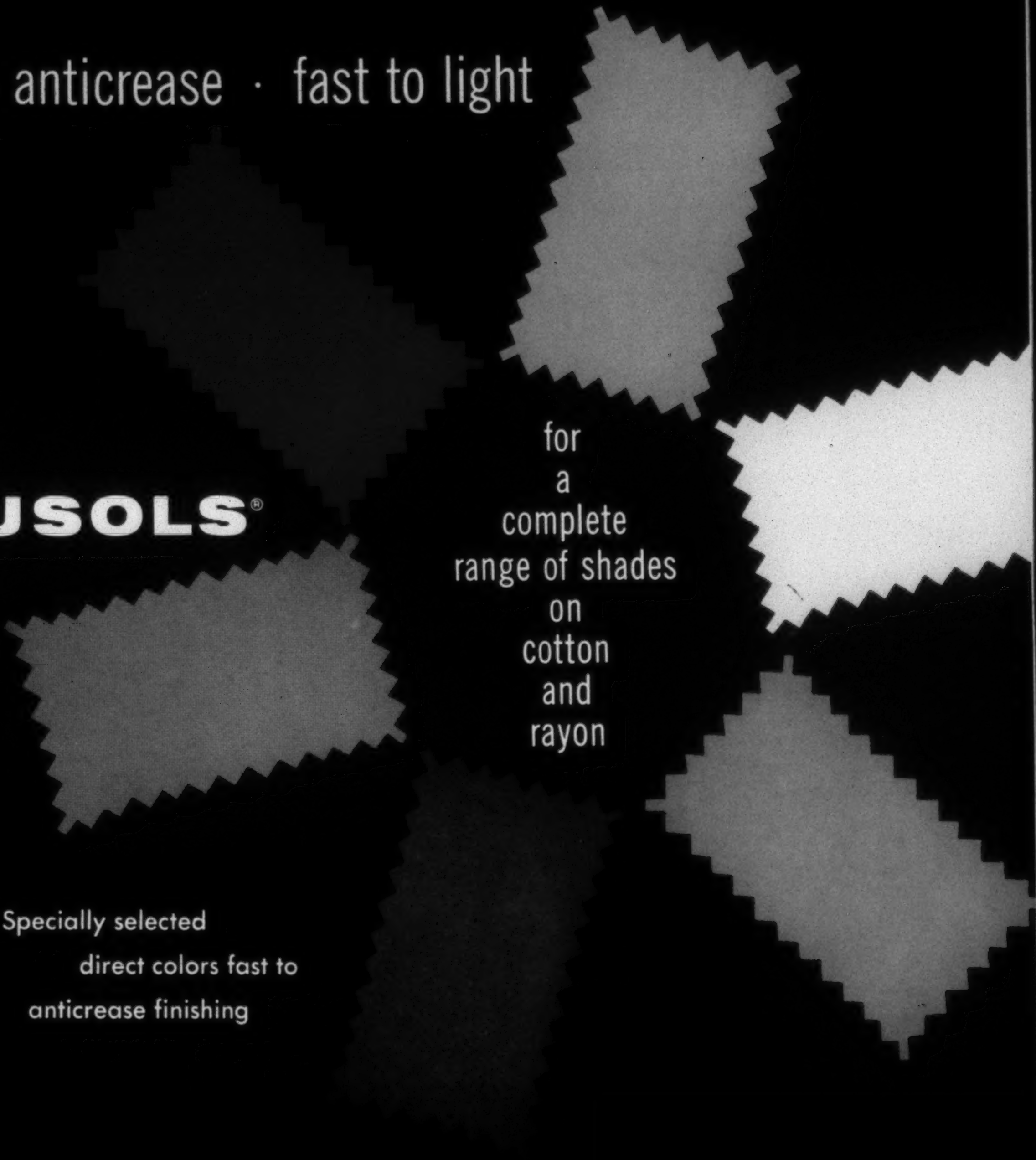
For the district's gain in the post-war period in closing the gap between it and the national average has been one compounded of many small yearly increases. District per capita income in 1955 was around 71 per cent of the personal per capita income of the nation, whereas in 1930 it was but half the national average and in 1946 stood at 67 per cent of the nation's average.

In 1955 the district's income had to be shared among 292,000 more persons than in 1954. Consequently, per capita income rose at a little lesser rate than total income—under five per cent.

Many additions to industrial facilities were started in 1955, but comparatively few large ones were completed, reflecting the falling-off in starts of new plant construction in 1953 and 1954, the Atlanta Federal Reserve Bank report says.

And even in the lusty growth industries—chemicals and pulp and paper manufacturing—employment gains were more a response to market conditions than to new facilities, the bank review notes. The number of workers on the payrolls of each industry averaged about three per cent more than in 1954.

The district farm picture was not entirely gloomy in 1955. Farm income was apparently greater in Florida, Georgia



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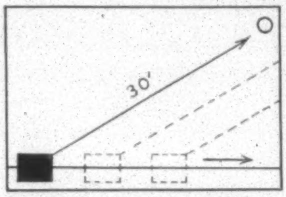
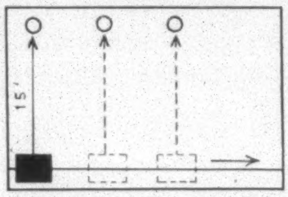
Bahnson
ALLRED
TRAVELING
CLEANER

Blows head-on at one-half the range of other cleaners . . . for better cleaning!



Other cleaners strike objective at angles from greater distances.



The Bahnson-Allred strikes objective directly at ½ the distance of other cleaners.

Blows Perpendicular to track to deliver direct, head-on air blasts. This special construction enables the Allred to clean more thoroughly with continuous head-on air blasts from ½ shorter range than other cleaners.

Cleans at Less Cost with greater efficiency. The Allred needs only a ⅓ horsepower motor for effective air delivery. (Available also with 1 H.P. motors for special applications.) Its head-on air blasts have been test-proven to clean more effectively than other approaches.

Patented Index Feature progressively adjusts the fan to clean selected areas in a pre-determined pattern. Pattern is easily set and varied for different needs.

Added Advantages. The Allred fan oscillates as it travels along the track to produce a varying angle of blow at each automatically adjusted setting. For further airflow control a U-Shield with adjustable vanes is furnished.

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Ask for Technical Bulletin 21-A

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COMPANY
WINSTON-SALEM, N. C.

AIR CONDITIONING • CLEANING • VACUUM COLLECTION

and Alabama, but lower agricultural income explained in general the relatively lower ranking of economic growth in Mississippi, Tennessee and Louisiana, according to Mr. Taylor.

And if 1955 did not set a record of "catching up" by completion of new industrial plants, he says, 1956 promises much. With existing facilities strained, producers of automobiles and aluminum, for which capacity operation was the rule in 1955, plan expansions, and virtually all plants producing pulp and paper or steel are enlarging their capacities.

And, in fact, the eventual total cost of major projects announced in 1955—some $675 million in the sixth district—far exceeds that of those announced in any other single year since the end of World War II, the bank survey reports.

"Catching up" to the national level thus involves more than merely improving the income of the South. Because the American economy has also been constantly producing more goods and services, "catching up" means that the district economy has had to expand at an even greater rate. The pace set by the nation in 1955 was so fast that if the district had merely "kept up," growth would have been substantial.

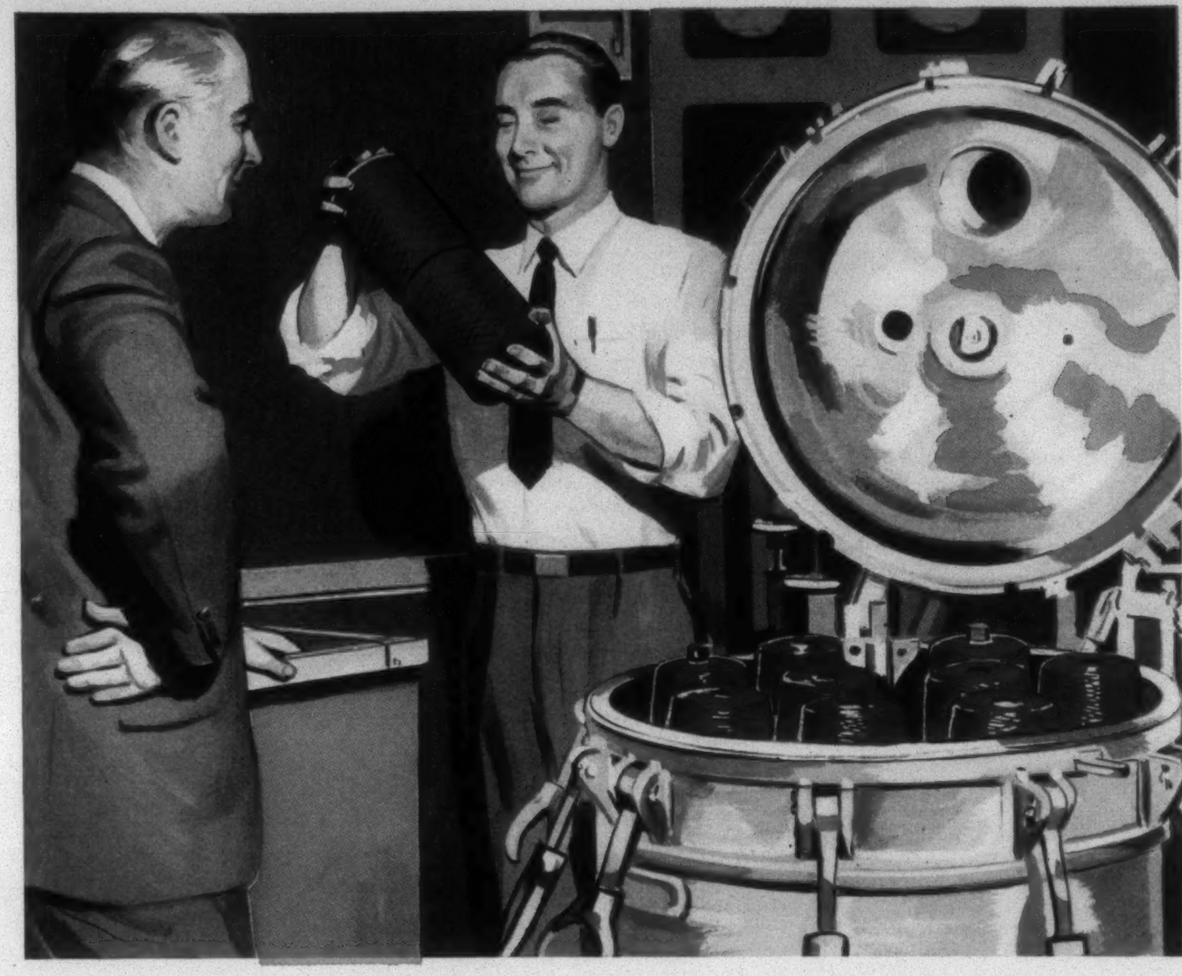
By their spending, consumers in the district as elsewhere helped push up the demands not only for the products manufactured in the district but the products of other areas as well. With a greater rate of income growth, they apparently increased their spending at a greater rate than did their counterparts in other areas.

The trend of department store sales is typical, although department stores cover only a small part of retail trade. For the year as a whole, the rate of sales growth at all district department stores was ten per cent, compared with a national increase of seven per cent.

It's not often that an industrial product makes political news. But here's report from the Biddeford, Me., *Daily Journal:* "A Saco Republican item was speedily 'naturalized' in Biddeford last evening. Mayor Albert Lambert lacked a gavel. Search of his council chamber desk turned none up. Councilman Alfred Letellier rose and said he had the very thing in his car. He returned with a neat rawhide mallet, just the size and shape for the job. The mallet, product of the Garland Mfg. Co., of which Saco's mayor-elect Republican Peter Garland is an executive, was immediately tabbed as Republican by one fun-making onlooker. Mr. Lambert casually and immediately commented, 'It has gone to work for us and is now Democratic'." Garland produces bunters, pickers and lubricants for the textile industry.

A pulley groove is like a blue serge suit—when the bottom becomes shiny, a lot of wear is indicated. The shine in the pulley groove is a sign that the pulley, the V-belt, or both, are badly worn, according to maintenance engineers of Dayton Rubber Co. It comes from the belt bottoming in the groove, thus losing wedging action and maximum pulling power. If the pulley groove is worn or oversized, increasing V-belt tension will simply make belt and pulleys wear even faster. Worn pulleys should be replaced. The same goes for worn belts.

On-the-job problems solved on the job



Think of this as your dye house. Right now you're looking at packages from the first full-scale commercial run of your new high-temperature dyeing process. And the fellow in shirtsleeves? He's the demonstrator from Du Pont. He's been on this job in your plant ever since the first, rough planning stages.

He's helped you select the proper equipment; he's helped work out the correct formulations for the results you want and has even trained your operators in the new routine. Now, with all the "bugs" worked out, the process is yours—the problem's solved—his job is finished.

Any of the Du Pont demonstrators could fit into this picture. They are all highly trained men, well qualified to handle any dyeing and finishing problems. They'll help you with jobs like the one outlined above. Matter of fact, they'll take on any job, from simple shade matching to the most complex process.

Remember—when you deal with Du Pont, you deal with the finest technical-service group in the field. This complete technical service is ready to work with you. Just give us a call, or write to the nearest District Office. See the convenient list at right.

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For the Textile Industry's Use

– TEXTILE INDUSTRY HAPPENINGS AS THIS ISSUE WENT TO PRESS –

Dual-Head Pin Drafter

A new high-speed, dual-head pin drafter machine, equipped for dual can, quad can or ball delivery, has been announced by The Warner & Swasey Co. This new machine supplements the company's presently available line of single-head pin drafter equipment. Of particular value to top and yarn manufacturers, Warner & Swasey reports that this new dual-head pin drafter provides maximum production in a minimum of space, with special design and safety features enabling the machine to operate efficiently at a speed of 1,500 faller drops per minute. When equipped for dual can delivery, the new pin drafter accommodates entering weights up to 3,500 grains/yd./head. With quad can delivery and an apron or dead plate infeed section, up to 1,500 grains per delivery are handled, supplying a sliver weighing from 40 to 150 grains/yd.—sufficient for intermediate as well as finishing operations in many mills, Warner & Swasey points out.

The ball delivery equipment, claimed to handle sliver weights up to 6¼ oz./5 yd., utilizes an entirely new linkage for actuating the traverse motion and is capable of producing a square ball up to 15" wide and 18" in diameter. Balls may be wound on any one of a variety of arbors, depending upon their expected end-use. The calender roll section is equipped with 6" rolls to take either single or double meche strands. A lock arrangement enables the rolls to remain open for easy threading. Other important features of the new Warner & Swasey dual-head pin drafter include coiler head rotor bearings sealed to prevent lint and fly accumulation and new porcelain-lined steel delivery bushings.

(Request Item No. B-1)

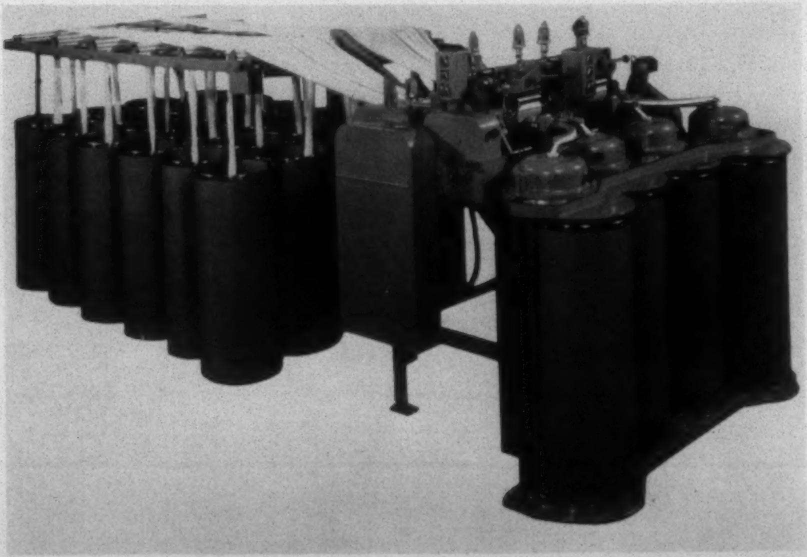
Lan-Nyl-Bond Spinning Tape

Oliver D. Landis Inc. is now offering Lan-Nyl-Bond tape woven from 100% spun nylon yarn. According to Landis, Lan-Nyl-Bond increases the average spindle speed by as much as 3.2%. Due to the reduction of breakages brought about by the greater smoothness of running, this is a true increase in spindle speed, it is pointed out, and therefore represents a real increase in man-hour productivity. Variations in spindle speed are reduced by as much as 80% by use of the new tape, Landis reports, improving yarn quality considerably.

In regard to power consumption, results of many tests reportedly show that from 7 to 20% of the total power consumed is saved by conversion to Lan-Nyl-Bond tape. Thus the initial cost of converting to Lan-Nyl-Bond is recovered in a period of 6 to 18 months by the savings in power alone. The nylon tape is subjected to a special heat-stabilizing and stretch treatment immediately after weaving. Due to the thermoplastic properties of nylon, this treatment insures absolute uniformity and evenness of the finished tape, Landis points out, at the same time reducing the stretch and increasing the flexibility.

Lan-Nyl-Bond tape is made endless by a special bonding process which also makes use of the thermo-plastic properties of nylon. In contrast to the stitched or clipped form of joint, the polymer bond is said to be approximately 3 times as strong as the tape itself. Moreover, and perhaps of even greater importance, the bonding process causes no distortion of the tape ends being jointed. This is said to insure absolute smoothness in running, eliminating "jumps" found in stitched joints at each passing around the spindle whorl.

(Request Item No. B-2)



Handling up to 1,500 grains per delivery and producing a sliver weighing from 40 to 150 grains per yard, this new high-speed, dual head pin drafter equipped with quad can delivery offers sufficient capacity for both intermediate and finishing operations. The unit is available also with dual can or ball delivery (Warner & Swasey Co.)

New National Dyestuff

National Aniline Division of Allied Chemical & Dye Corp. has announced that National Solantine Blue Green BFL is the latest addition to the company's line of non-dusting, light-fast direct dyes producing, on cotton and rayon, bright bluish-green shades, which may be discharged to an excellent white with neutral and alkaline discharge pastes. It reportedly exhibits excellent fastness to light, rubbing, alkalis, dry cleaning, sea water and water; very good fastness to washing and perspiration; and good fastness to acids, mercerizing and hot pressing. National Aniline says the product is suitable for coloring cotton carpet yarns, hosiery, upholstery, suitings, materials to be rubberized; and for dyeing leather.

(Request Item No. B-3)

Yale & Towne Warehouser

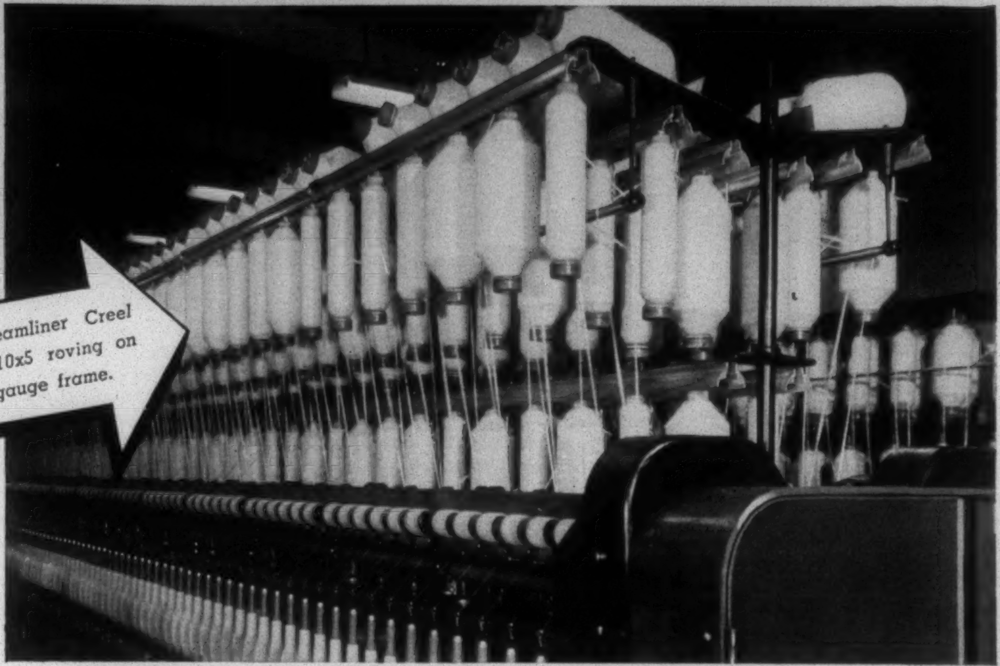
With skids and skid bins forming a very important phase in over-all materials handling operations, The Yale & Towne Mfg. Co. has developed a high-lift platform Warehouser which permits stacking of this type unit load carrier in narrow aisle storage areas. The Warehouser, a very short, electric, stand-up lift truck, was developed for use in installations where narrow aisles, low floor loading, moderately lengthy travel and speed in operation are of prime importance. The truck in all models is designed to operate in aisles of less than 8', and in some designs in aisles as narrow as 6'. Popular in Extend-A-Fork, high-lift fork, pallet and low-lift platform models, this new high-lift platform truck opens up a whole new field for Warehouser handling. A 4,000-lb. capacity truck, the new Warehouser has an over-all height of 68" and a maximum platform height of 96". In the lowered position, the top of the platform is 6" from the floor.

(Request Item No. B-4)

Clip Collector

Guider, Roll and Service Co. is now offering an automatic device for removing the small metal clips used by finishing plants to attach to the selvage of goods being finished

MODERNIZE SPINNING


Note the Streamliner Creel with double 10x5 roving on this 3¼" gauge frame.

ROBERTS HIGH DRAFT

Simplest All variables eliminated. No bearing gadgets, springs, pivots, or other elements to vary from spindle to spindle or month to month.

Most Effective Concentrated tests prove higher break factors, lower ends down, better yarn evenness and greater consistency of performance.

Least Expensive The simple combination of gadget-free elements provide a lower first cost and the lowest maintenance cost.

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SPINNING MODERNIZATIONS

- Partial or complete Drafting System Changeovers
- Increased Draft Constant and Hardened Draft Gearing
- Streamliner Creels for Larger Packages
- Ball bearing Cylinders and Tape Tension Pulleys
- Increased Traverse on Bobbin
- Roller Bearing Spindles
- Rings and Ring Holders
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ROBERTS HIGH DRAFT
DRAFTING SYSTEM

- a true double apron system
- a simple, uncluttered drafting system with all variable elements omitted
- the narrowest possible cradles, aprons and cots consistent with the gauge
- positively set and maintained top roll settings
- proper and unchanging weight distribution
- elimination or reduction of top roll and bottom roll lubrication
- strengthening of the draft gearing by use of hardened gears and studs plus increase in head-end roll neck diameters.

In addition to supplying all or any part of the above modernization material, we can provide a complete "turnkey job" including all installation and erection. The experience gained in the installation of more than 2 million spindles of Roberts High Draft is available to you on the smallest Changeover or the most complete Modernization.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

THREE
of a kind and they're
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lubricants

BEN-BOY LUBRICANT is unsurpassed for dryers, calenders, slashers, printing machines, dye house lubrication, pre-boarders, kilns, etc.

G-C NON-MELTING OILS have proven their worth for top rolls, comb boxes, looms and motors.

G-C TWISTER RING LUBRICANT is just the thing for mill operators who want a lubricant that does not contain tallow, lard or fatty acids. It is colorless. Lasts several times longer because it resists heat.

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MACON GEORGIA

when special attention is called to some place in the selvage.

The device, to be called the Clip Collector, is said to be very simple. A powerful magnet is used to pull the clip attached to the selvage toward a metal plate which is usually attached to a guider but which could be placed almost anywhere. The pull of the magnet opens the clip slightly at the end and the cloth carries the partly-opened clip down the edge of the plate which is inclined at the outside edge. At the bottom of the plate the clip has been pulled entirely free of the selvage and drops into a box. The plate is stainless steel. Arrangement has been made to install the Clip Collector on any type of guider, the manufacturer reports, and there is ample adjustment for the correct placing of the collector in any position necessary for its proper function.

The company points out that the Clip Collector should be used before a peroxide steamer to prevent rust spots and rust holes; in front of dyeing machines to prevent undyed spots under the clip when going through the dye pad; before hot air frames to prevent nicked places in the selvage; and before Sanforizers where clips might stick to the rubber or felt blanket or latch in the Sanforizer shoes. (Request Item No. B-5)

Norane Silicone

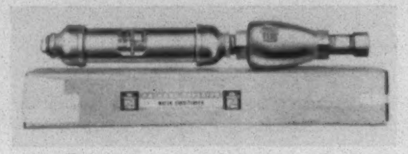
Warwick Chemical Co., division of Sun Chemical Corp., announces the addition of a new product, Norane Silicone, to its line of water repellent textile finishes. This new concentrated emulsion of silicone resin is designed to produce a durable water repellent and non-oily spot and stain-resistant finish on acetate, viscose, cotton, nylon and wool fiber fabrics. According to Warwick, fabrics treated with Norane Silicone will not only show improved properties of abrasion resistance, tear strength and sewability, but will hold their press, resist wrinkling and stay new looking longer with less care. In addition, Norane Silicone is said to be compatible with thermosetting resins for durable water repellent, crease-resistant and shrinkage control finishes. The Warwick co-operative advertising plan which covers other Warwick water-repellent finishes such as Impregnole, Norane W and Norane 4-Star will be extended to include Norane Silicone. A combination Warwick-Dow Corning garment hang tag will be made available to garment manufacturers for fabrics which meet the standards of the Warwick Chemical-Dow Corning certification plan.

(Request Item No. B-6)

Strapping Table Top

Signode Steel Strapping Co. is offering a new strapping table top designed to be easily mounted on a permanent or portable base. Measuring 36" wide by 36" long by 1½" high, it is sturdily constructed of metal-clad plywood in which 1" ball casters have been mounted. There are 61 of these easy rolling casters, which extend ¾" above the table surface and are mounted in a staggered pattern on 3" centers. Gross weight of the unit is 37 lbs. The table top enables the operator to stand in one position while rotating heavy containers for packing or strapping, minimizing manhandling. A metal strap guide, offered as an optional feature, eliminates stooping or bending to pick up strap end, brought to within easy reach by the guide. (Request Item No. B-7)

Water Conditioner



Non-chemical water conditioner (Packard Mfg. Co.)

The Packard Mfg. Co. has announced the marketing of a new water conditioner that reportedly eliminates and prevents scale and corrosion formations in boilers and water systems without the use of chemicals. It is said to be the first important application of nuclear physics principles to the effective treatment of industrial water problems.

For use on boilers, air conditioning, refrigerating systems and wherever water problems exist, the Packard water conditioner prevents scale and corrosion by imparting added energy to the atoms of the water solution. Use of the water conditioner reduces operating costs and increases plant efficiency, Packard reports. Easily installed, there is no moving part, no expensive maintenance or servicing either in the form of labor or chemicals, the company points out, and all conditioners carry a 10 year warranty. The conditioner is manufactured in sizes handling from 6.5 to 1,760 gallons per minute for connection with corresponding standard iron pipe sizes ranging from ¾" to 12". Larger sizes are available.

(Request Item No. B-8)

Industrial Conveyors

A new line of industrial conveyors is being introduced by The Colson Corp., enabling the company to offer completely integrated material handling systems for almost any handling problem. For the time being, Colson's line of conveyors includes skate wheel and roller-type gravity conveyors and expanding and portable powered belt conveyors. The company has realigned its sales force in order to place experienced conveyor engineers in every territory. These men are able to design complete plant material handling systems, Colson points out. Colson's entry into the conveyor business follows by a little more than a year its acquisition of the assets of Service Caster & Truck Corp., which added a wide variety of powered material handling and lifting equipment to Colson's broad line of hand operated equipment. (Request Item No. B-9)

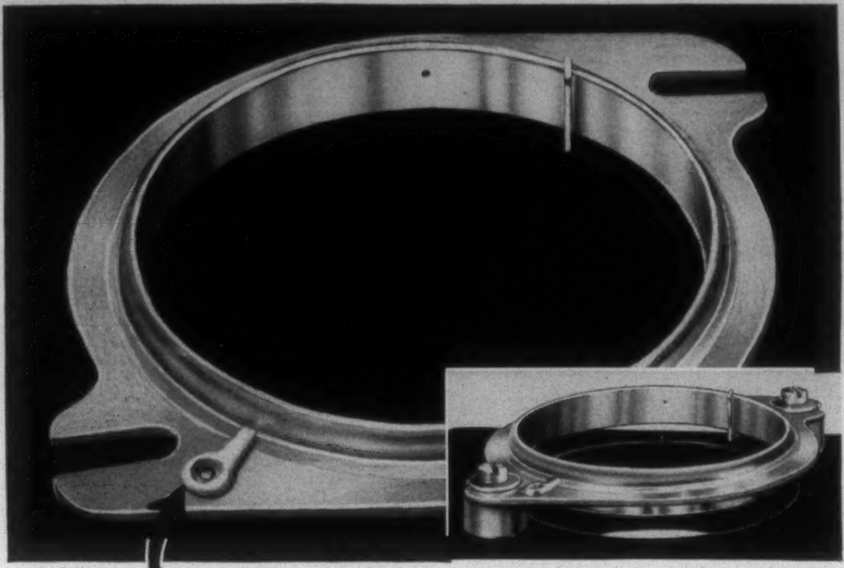
ACCO Psychronditioner

Fiber testing under carefully controlled atmospheric conditions is now common in the textile industry. Due to the hysteresis in the moisture relations in cellulose fiber it is necessary to maintain the desired atmospheric conditions continuously which requires very rigid equipment. Available now for use in any laboratory where close control of temperature and humidity is required, is the ACCO Psychronditioner. This machine was developed for Pressley and Micronaire labs to meet criterion for cotton testing set down by Dr. Earl E. Berkley of Anderson Clayton & Co. Inc. It is distributed by Air Conditioning Industries Co. As manufactured, it provides positive and accurate control of the psychrometry (temperature and relative humidity) of air in the testing laboratory regardless of outside weather conditions. It meets the requirements of close tolerances in operation, as well as low operating and maintenance costs. It is said to be the only psychrometric system known that will meet the exacting conditions of a small laboratory at a nominal cost. The mechanism is contained in a compact housing (69" x 92.5" x 28.5") which is of convenient size for moving and shipping. All that is required to operate the unit is to connect it to water, drain, electricity and steam (or hot water), and to the ducts for distribution of the conditioned air.

The manufacturer points out that the ACCO Psychronditioner, while constructed as a self-contained unit, is not to be confused with the so-called "package unit" type air conditioner. It is rather a "method" of air conditioning adapted for a specific purpose. Latest design revision permits a choice of different instrumentation. Proportioning controls give plus or minus 2% relative humidity and plus or minus 2°F. Closer control may be obtained with reset type instruments. Depending on the laboratory needs, the psychronditioner may be constructed of metal to resist corrosive atmosphere. It may be built to utilize any type of heating energy such as steam, electricity or gas. (Request Item No. B-10)

Ellis, Coker

COUNSELOR AND FRIEND to numerous manufacturing plants in the Carolinas for more than 30 years, K. D. Ellis of Hamlet, N. C., retired recently as industrial inspector for the Factory Insurance Association. He is pictured here receiving an engraved gold watch from C. W. Coker, executive vice-president of Sonoco Products Co., Hartsville, S. C., on the occasion of being honored by the Sonoco volunteer fire department at its annual banquet.



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Set flush, or set above ring-rail to avoid fly loading. Either way you get a trouble-free ring that gives balanced traveler wear at highest speeds and long running.

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HIGHER SPEEDS
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Fill the deep reservoir once a day . . . the filter pads feed out the oil—and these rings just won't run dry. No wicks, so nothing to carbonize.

They cost no more than the machined rings which they far outwear, even at higher speeds. Special heat-treating for wear-resistant hardness. Super-smooth finish. They perform better, longer, spinning worsted, synthetics, and mixtures; twisting cottons. Now ready in two sizes: 2¾ x 7/16 and 2¼ x 7/16. Four leading makers are delivering travelers designed for them.

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REPRESENTATIVES: H. B. "Booch" Askew, P. O. Box 424, Griffin, Ga. • L. O. Talley, P. O. Box 1169, Mexia, Texas • William R. Fox, P. O. Box 380, Providence, R. I.

For the Mill Bookshelf

Motor-Operated Valves

National Controls Inc., manufacturer of electric and electronic controls, has published a 4-page pamphlet (Bulletin V562) describing its 2-position motor-operated valves. According to the manufacturer, the valves feature the following: (1) heavy-type unit bonnet globe pattern single-seat valve with removable disc; (2) industrial-type heavy-duty operator with enclosed oil-immersed gear train; (3) rugged limit switches and provision for manual operation of the valve in the event of power failure; and (4) valve may be mounted in any position desired so that all parts requiring maintenance—such as packing and replacement of valve disc—are easily accessible.

(Request Item No. B-11)

Metlon With Mylar

Metlon Corp. describes the many new qualities of its Metlon with Mylar metallic fiber in a new illustrated booklet entitled *Facts Booklet*. The booklet points out that Metlon with Mylar's new characteristics make it very desirable, whether unsupported or in combination with natural or synthetic fibers, for weaving, knitting, sewing and embroidery, quilting and trimmings. Fabrics containing Metlon with Mylar can be finished or dyed by vat or direct methods at higher temperatures than any previous metallic yarn, even to boiling point if required, the booklet reports. Dyeing formulas are given for cotton, silk, nylon, wool and viscose. Available in gold or silver, the yarn is stocked in the following sizes: 1/64", 16,000 yds. per lb.; 1/50", 12,000 yds. per lb.; 1/32", 8,000 yds. per lb.; other widths in preparation. It is available in ½-lb. fiberhead spools and 1-lb. disposable spools.

(Request Item No. B-12)

Rubber Roll Covering

How Thick Should A Rubber Roll Covering Be? This subject, a primary consideration of mill engineers in the textile industry, is discussed in the latest engineering report (No. 8) published by Rodney Hunt Machine Co. The report is one of a series intended to assist in the design and selection of rolls for specific plant applications. Illustrating the text is a graphical analysis of the effect of rubber thickness on nip width and distribution of pressure under the nip for a pair of squeeze rolls. Conditions are defined for ½", ¾" and 1" rubber roll thicknesses of equal hardness, clearly showing how doubling the rubber thickness increases the nip width by 75% yet decreases the unit maximum pressure under the nip by 40%. This combination effect is an extremely important concept when considering the nip action of squeeze rolls, the report points out. The relationship of available roll body sizes to proper thickness of covering is also discussed in the report, with important suggestions about the economy of using standard steel pipe bodies.

(Request Item No. B-13)

HINDE & DAUCH had to erect a block-long building at Gastonia, N. C., to contain the machine *(below)* which can make a seven-foot wide strip of corrugated paper seven miles long every hour. An informal public opening of the new plant was held Feb. 6, with a number of textile mill executives as special guests. The plant is producing a variety of corrugated paperboard boxes for industrial uses.

The Story Of Philadelphia Quartz

In celebration of its 125th anniversary, Philadelphia Quartz Co. has published a brochure entitled *Respected Friend* which tells the story of the company from its beginning in 1831 when the founder, Joseph Elkinton, opened a soap and candle factory at 377 S. 2nd St., Philadelphia, Pa. The brochure, which gets its name from the salutation used on company correspondence since 1831, traces the growth of the company, the important development of mixing silica of soda in soap, the use of silicate as an adhesive, etc. How the company discontinued the manufacture of candles and then of soap is described as is the firm's later concentration on the manufacture of silicate. Today the company has plants in Anderson, Ind.; Chester, Pa.; Baltimore, Md.; Buffalo, N. Y.; Jeffersonville, Ind.; Kansas City, Kan.; Rahway, N. J.; St. Louis, Mo.; and Utica, N. Y. Two associate companies—Philadelphia Quartz Co. of California and National Silicates Ltd.—have their own plants in California, Washington and Canada.

(Request Item No. B-14)

Factoring Facts

William Iselin & Co. Inc. has issued another in its series of informative booklets on factoring, this time one that is addressed specifically to accountants. The booklet is called *Memo to Accountants*, who are described therein as "friends, confidants and advisors" to businessmen. "The accountant, on behalf of his client, constantly seeks right answers to a host of vital questions," the booklet states. It adds that one of these questions, "How can working capital be put to maximum use?" can frequently be answered best, "Through the use of factoring." The objective of all business is profit, it is pointed out, and profits are made on turnover. The objective of the Iselin service is to enable businesses to increase working capital turnover, so they can operate comfortably and earn greater profits safely without having to share them with new investors, or encumber themselves with debt to support a more profitable volume level. It is stated that the factor renders financial, credit and consultative services, and that the factor's purchase of a company's accounts receivables is without recourse. In other words, the factor assumes all credit and collection responsibility.

(Request Item No. B-15)

Anti-Corrosion Coating

Alfred Hague & Co. Inc., manufacturer of rubber base paints, has published a folder describing its Rubalt 7-C red primer, said to be the toughest anti-corrosion coating of all. The primer is designed to provide metals, wood, concrete and other surfaces with long-lasting protection against moisture, acids, alkalies, electrolysis, hydrolysis, salt water, sunlight, dirt and grease, mineral oils and alcohols. Features of the coating, pointed out in the folder, include: drying time of one hour; goes over damp surfaces; covers large area per gallon; can be applied with brush, spray or roller; and no finish coat required. Rubalt 7-C contains zinc chromate and iron oxide in a chlorinated natural rubber vehicle along with modifiers and appropriate solvents.

(Request Item No. B-16)

Corrugated Packaging

Publication of a revised edition of *How To Ship More Economically in Corrugated Boxes* has been announced by Hinde & Dauch. Thoroughly updated and revised, the 24-page Little Packaging Library booklet features a completely new format and new typography and illustrations. It explores every phase of economy inherent in the use of corrugated packaging. Subjects treated in the new edition include design of a corrugated box, testing, storage, shipping room layout, packing, sealing, stacking and loading. Ample illustrations show the proper techniques involved in each of the operations with an eye to cost cutting in the packaging and shipping department. Four current case histories describe specific applications of corrugated boxes and indicate how careful box design and packaging room operations have effected significant savings for existing businesses. (Request Item No. B-17)

Industrial Fans

A new 72-page 2-color catalog (Bulletin 5306) describing the new Series 106 industrial fans now available from American Blower Corp. The new catalog describes the features of the new fans, discussing such important considerations as wheels and arrangements, optional construction, modifications and special design and construction details for high-temperature operation. Part of the latter discussion is a special elevated temperature application guide which offers recommendations for bearings, fan construction, fan arrangement and maximum speed factor in high-temperature installations based on air or gas temperature.

A special section of the new catalog is

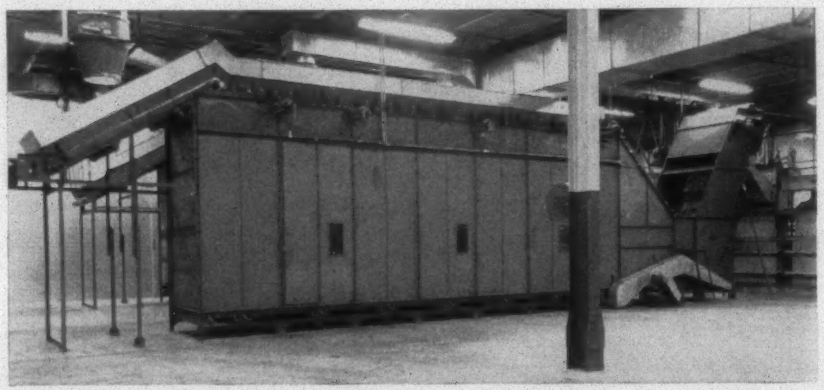
How Proctor Blending Equipment makes

MORE PROFITS

at ALEXANDER SMITH

"manufacturing costs reduced...quality increased..."

"We think it would be an opportune time to discuss the very fine equipment you have furnished us in Greenville and Yonkers, and for us to show our appreciation of your efforts to reduce our manufacturing costs and to increase our quality . . ."—writes Alexander Smith's Director of Engineering. For today, improved *automatic* blending of wool or synthetics is a cost-saving reality at Alexander Smith.



THE PROCTOR ROLLER BLENDER distributes the precision-weighed stock, re-lays it in layers and then breaks it down from top to bottom keeping variations in the fibers blended under 1½%. The second unit is on color blending and assures uniformity of shade in their carpet yarns.

EQUIPMENT PAYS FOR ITSELF QUICKLY—Regardless of the size of your mill, a Proctor & Schwartz blending system will not only pay for itself quickly in direct labor savings, but also in the production of better yarns at greater profits!

QUALITY PERFORMANCE GUARANTEED—Blending is just one of the many fiber processing operations of every conceivable type which have been pioneered by Proctor and Schwartz—world's largest and most experienced producer of blending machinery. And, as always, every piece of Proctor blending equipment, from the smallest pilot unit to the largest system, comes to you with the assurance of quality performance—as guaranteed.

PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS • EQUIPMENT FOR "REDMANIZED"® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

Proctor

PROCTOR & SCHWARTZ, INC.

Philadelphia 20, Pa.

Manufacturers of Textile Machinery and Industrial Drying Equipment

devoted to a thorough description of the new packaged industrial fan, a self-contained unit complete with fan, motor and drive unit. This discussion includes a cutaway illustration of the special ventilated hood for the packaged units, revealing shaft and bearings, V-belt drive and adjustable motor base. Important points to consider in the selection of Series 106 industrial fans are also presented. Rating table terminology, ordering data and operating limits are discussed. Selections based on the constant pressure method as well as cold static method are covered, with example selections included for each case. A special discussion of packaged unit selection is also included, together with two examples. Two correction factor tables—one for temperature, the other for altitude—are part of the selection data along with a third table which gives air density factors for various temperatures and altitudes. Following the selection data are 50 pages of ratings for the various Series 106 wheel types and sizes. Complete tables of dimensions and weights are also included for all arrangements and sizes, including the packaged industrial fans. These tables are accompanied by drawings and photographic illustrations. A typical industrial fan specification is given as a guide to buyers and users of industrial air and material handling equipment. The specification gives a step-by-step outline of the data which should be included.

(Request Item No. B-18)

Vertical Filters

Industrial Filter & Pump Mfg. Co. is offering an 8-page folder describing a number of new devices now available on Industrial's vertical filters for chemical and water purification. The new devices are designed to increase filtering performance and convenience. Filter leaves that can be lifted from the manifold without unbolting, bottom and top outlet leaves, quick opening cover, jacketed shell, bottom opening filter chamber and individual leaf outlets are described and diagrammed. The folder also details air wash, sluicing and shaking devices. (Request Item No. B-19)

Water Treatment Methods

Graver Water Conditioning Co. now has available copies of Technical Reprints Nos. T-138 and T-142. Reprint T-138, on the important operating factors and the selection of chemical treatment for water clarification, discusses the theoretical chemical problems of coagulation and goes into the actual physical consideration of the process. A major portion is devoted to a discussion of proper selection of the coagulant and the various coagulants available. There is also a very useful table comparing the characteristics of these chemicals. Of particular interest will be the Graver jar test procedure used to determine the proper chemical to use. The test is shown and a typical report form indicated.

Technical Reprint T-142 discusses the details of dealkalization, a new method of alkalinity reduction. This process, also known as sodium zeolite-anion exchange, has the special advantage of not requiring corrosion-resistant equipment, the literature points out. Yet alkalinity is removed, as well as hardness, by a simple, efficient method. The reprint discusses the details of the process limitations and where it can be used. There are actual chemical equations to show exactly how the chemical reaction takes place and a description of the equipment needed. (Request Item No. B-20)

Crane Electrification Catalog

Catalog No. 2021-A is being offered by The Cleveland Crane & Engineering Co. on its line of inverted-Y electrification, which is now being made available for the first time for application on all makes of cranes and runways. The free booklet contains drawings and all catalog information necessary for ordering the aluminum inverted-Y conductors, supports and collectors for any normal application requiring current in amounts of 300 to 1,000 amps.

(Request Item No. B-21)

South Bend Lathe Catalog

Many new and improved products are introduced in a golden anniversary catalog published by South Bend Lathe, builder of precision tools since 1906. Attractively bound in a gold cover, the 80-page book is

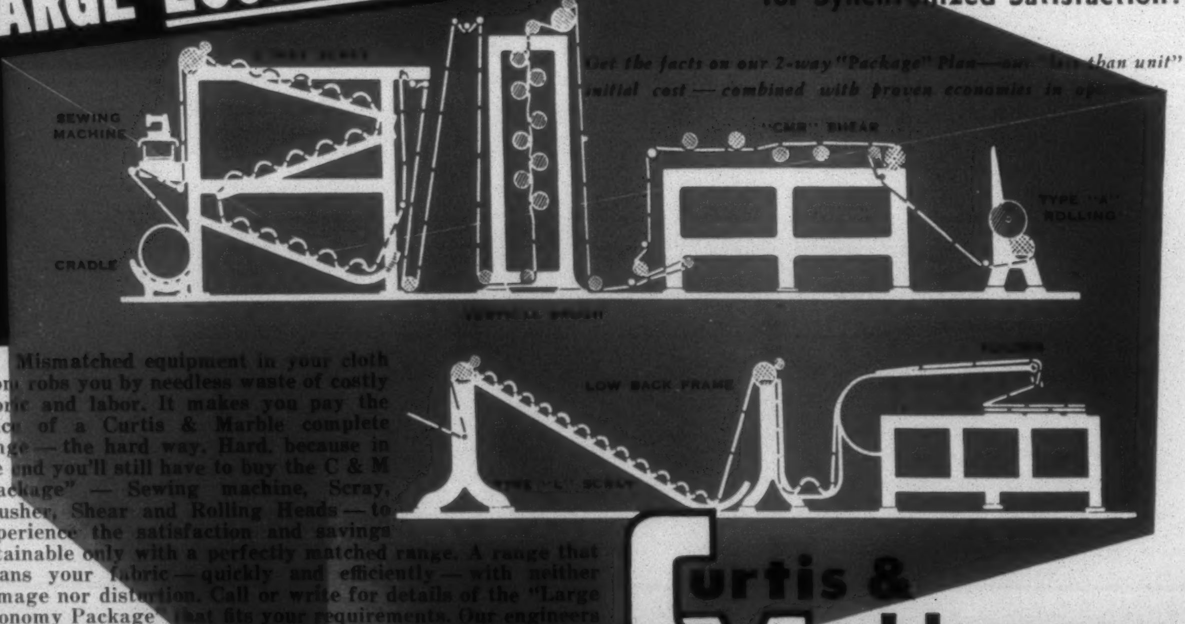
IT ALWAYS PAYS TO BUY THE
LARGE ECONOMY PACKAGE!

Get More
for your equipment dollar . . .
Buy the Complete C & M range
for Synchronized Satisfaction!

Get the facts on our 2-way "Package" Plan—our "less than unit" initial cost — combined with proven economies in op

Mismatched equipment in your cloth room robs you by needless waste of costly fabric and labor. It makes you pay the price of a Curtis & Marble complete range — the hard way. Hard, because in the end you'll still have to buy the C & M "package" — Sewing machine, Scray, Brusher, Shear and Rolling Heads — to experience the satisfaction and savings obtainable only with a perfectly matched range. A range that cleans your fabric — quickly and efficiently — with neither damage nor distortion. Call or write for details of the "Large Economy Package" that fits your requirements. Our engineers will "wrap it up" for you — and you'll pocket the savings.

Curtis & Marble MACHINE CO.
72 Cambridge Street Worcester • Mass.
Southern Office: South Carolina Nat'l. Bank Bldg. Greenville, S. C.



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LIKE further information about new products described in "For The Textile Industry's Use" section of this issue?

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FIND **that TEXTILE BULLETIN is useful to you in your work, and that you would like a regular subscription for yourself or others in your plant?**

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USE **the attached cards for a prompt reply to your requests — no postage required.**

a convenient size for standard letter file drawer. The catalog covers the entire line of South Bend lathes, shapers, grinders and drill presses. Also shown for the first time are the new South Bend vertical spindle milling machine and a new 13" swing turret lathe. Attachments, chucks, tools and accessories for all South Bend machine tools are included. Specifications including capacities, floor space requirements and shipping weights for all machines are clearly tabulated. A copy of this catalog can be obtained by using this magazine's reader service request card. (Request Item No. B-22)

Cleaning With Solvent Detergents

The cleaning uses and abilities of solvent claimed for this cleaning method by the face active agents—are described in a booklet recently revised by Oakite Products Inc., manufacturer of industrial cleaning and related materials. The 16-page, illustrated booklet tells how solvent detergents, used without heat, remove carbonized grease and oil and certain types of paint, and provide temporary rust protection after cleaning. Methods of application—manual, spray, tank and machine—are described in detail, including procedures and solution concentration. Application equipment is both illustrated and discussed. Some of the advantages claimed for this cleaning method by the manufacturer are pointed out in the booklet—the ability to remove heavy soils in cold application; to rinse easily with water; to minimize the danger of fire; and to have long life in solution. Copies of the booklet are available to readers writing on company letterhead. (Request Item No. B-23)

Lunkenheimer Valves

A new, illustrated 4-page circular (No. 580) describing Alvor constant level oil controls; bottle oilers for plain bearing lubrication; Sentinel, Royal and Pioneer glass body oil cups; and Alsen aluminum body oil cups, has been prepared by the Lunkenheimer Co. The circular includes detailed dimensions and installation instructions covering a wide range of applications. (Request Item No. B-24)

Rando-Web Process

Curlator Corp. is offering a new, illustrated 11-page booklet on the Rando-Web process. The booklet (Bulletin No. 104) gives the latest information on Rando-Webs as produced by 40", 60" and 80" Rando-Feeder and Rando-Webber. Advantages of Rando-Webs, as cited in the publication, are: (1) equal strength in all directions without cross-laminating; (2) thickness of web adjustable by the turn of the control knob; (3) high product yield from raw stock—at least 98% of fiber is returned as web; (4) wide range of raw stocks and blends; (5) continuous web formation; (6) square, even selvage; and (7) 3 standard widths of machines for 40", 60" and 84" material. (Request Item No. B-25)

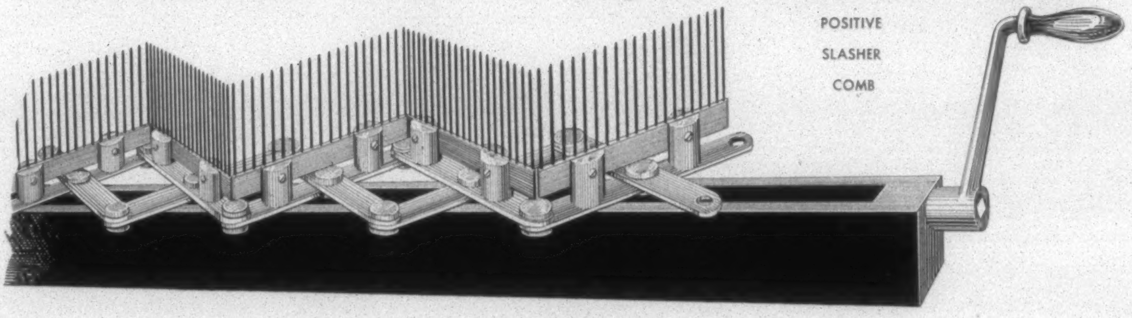
Polyhydric Alcohol Esters

A new 1956 issue of the catalog *Esters by Glyco* has been published by Glyco Products Co. Inc. The fatty acid esters of glycerol, glycols and polyethylene glycols are described in this 24-page catalog which includes tables of the physical and chemical properties of these non-ionic surface active agents. These products are used as emulsifying agents, stabilizers, penetrants, thickeners, defoamers and plasticizers. Copies of the catalog can be obtained by using this journal's postage-free request card. (Request Item No. B-26)

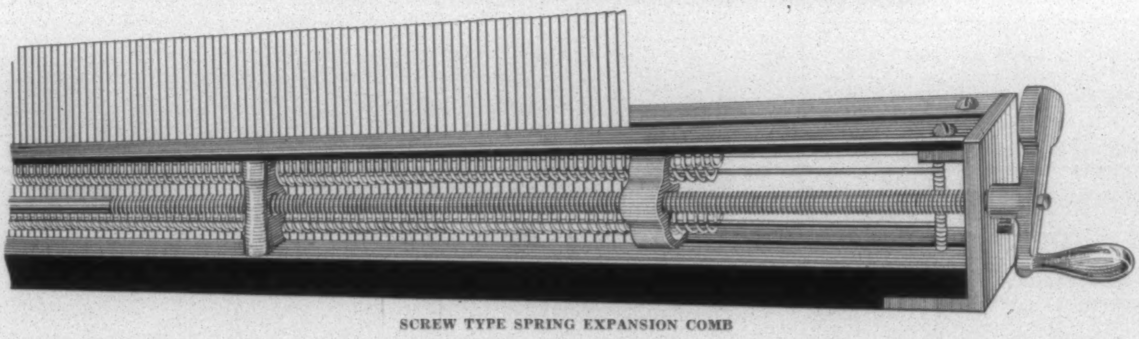
Galvanized Steel Conveyor

A single-page bulletin describing new Rapistan galvanized steel conveyors has been issued by The Rapids-Standard Co. Inc. The literature gives full details on the new line of galvanized steel gravity conveyor channel

EXPANSION COMBS for Warpers, Beamers and Slashers



POSITIVE SLASHER COMB



SCREW TYPE SPRING EXPANSION COMB

We manufacture both the tape type spring expansion comb and the screw type. Dents can be furnished in oval stainless steel, tempered steel or carbon steel. Our combs are made with the finest spring wire, insuring even and smooth as well as maximum expansion and contraction. Dents furnished any height above frame desired. The percentage between maximum expansion and minimum contraction figures about 30%. Furnished for any make beamer, warper or slasher.

RECOMMENDED HARD CHROMIUM PLATED DENTS.

Combs Repaired

GREENSBORO LOOM REED COMPANY, INC.
Greensboro, North Carolina

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Service Plus

Ralph M. Briggs, Jr.
Jacobs Service Engineer in Georgia, and Southeastern Tennessee

Experience Plus

JACOBS

Quality

Jacobs Hairy Leather Check Straps

Jacobs Leather and Rubberized Fabric Strapping

— boosts production and cuts operating costs in many mills.

Jacobs high quality plus personal loom engineering service is the combination that does it.

The Bullard Clark Company

JACOBS

SOUTHERN DIVISION
Charlotte, N. C.

NORTHERN DIVISION
Danielson, Conn.

which is being offered at the same price as painted steel channels. Included in the folder is the story of the new galvanizing process developed by Inland Steel Co. to give, for the first time, galvanized steel which will not flake or chip under the most extreme tests. This steel is used by Rapistan in the manufacture of the new galvanized steel conveyor models. Also included are construction details.
(Request Item No. B-27)

A-C Product Directory

A new 24-page directory of product literature, *This is A-C From A to Z*, has been released by Allis-Chalmers Mfg. Co. In addition to an alphabetical description of company products and their descriptive literature, the directory has a brief history of Allis-Chalmers as an introduction. It also lists the location of the firm's 17 plants, sales offices and branch houses. A self-addressed, postage-prepaid post card attached to the inside of the back cover makes it easy to order any desired product literature.
(Request Item No. B-28)

Portable Humidity Recorders

A new bulletin describing and illustrating a complete line of portable recorders for relative humidity and temperature has been released by The Bristol Co. The 6-page 2-color bulletin shows samples of typical records made by the Thermo-Humidigraph recorders which are designed to record conditions in the room or chamber in which they are placed. Permanent mounting models are also shown. (Request Item No. B-29)

Materials Handling News

Reports on new products and interesting new applications in the conveyor field are now available in the *Rapid Handler*, a publication issued free of charge monthly by Rapids-Standard Co. A tabloid size newspaper, the *Rapid Handler* presents in each issue new ideas for conveyor applications, collected by the Rapistan field force. Also included are case histories of unusual installations, descriptions of new and forthcoming conveyor and caster types and designs and an occasional condensation of an article of major importance from leading publications in the materials handling field. Photographs are used widely to illustrate the text. A free copy of each issue will be sent to anyone mailing a request, on their business letterhead, to this journal.
(Request Item No. B-30)

Automatic Lubricators

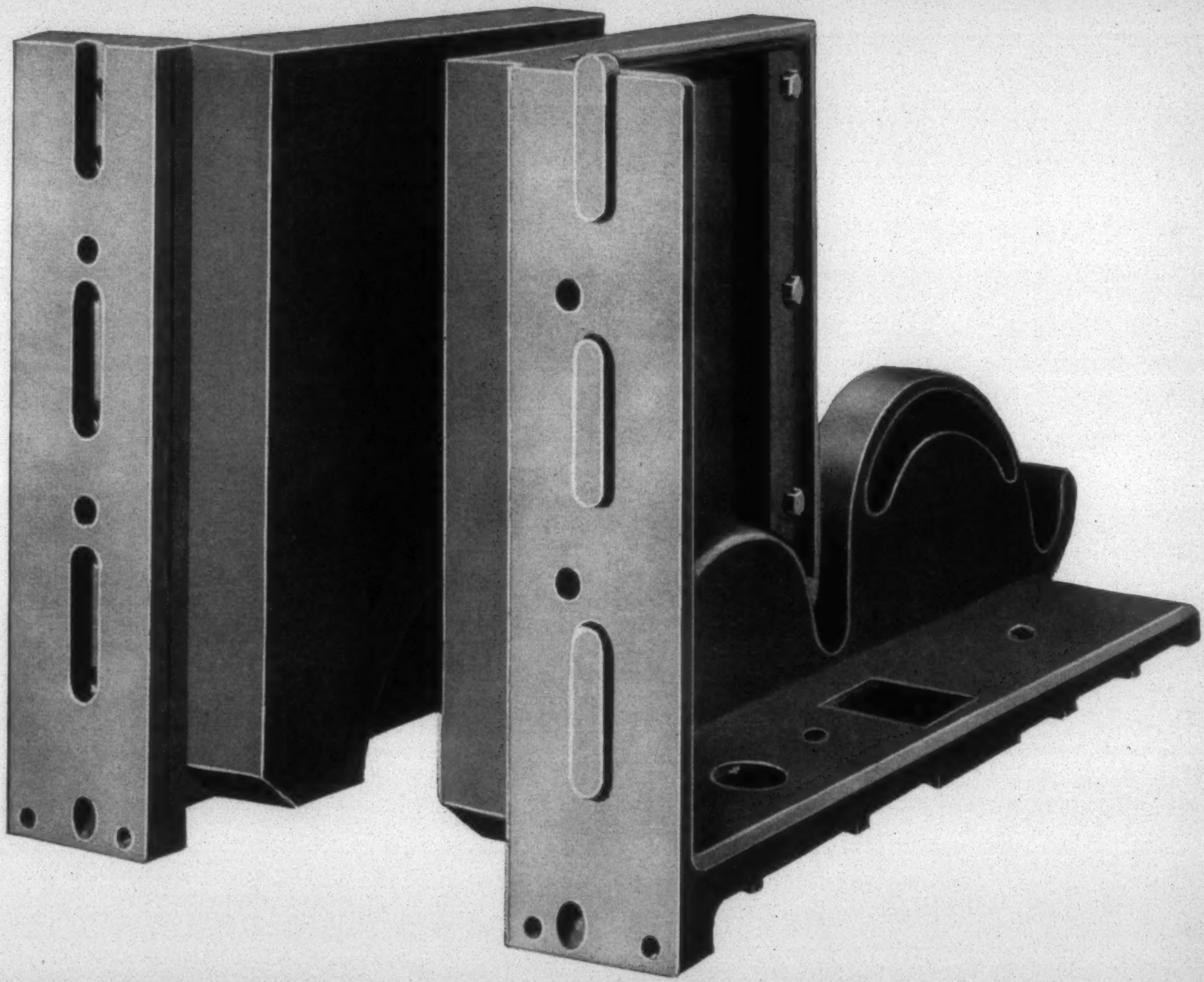
A 4-page, 2-color brochure, Bulletin 3A, describing high-pressure automatic lubricators is now offered by Bijur Lubricating Corp. Designated Type A, the automatic lubricators are designed to deliver metered

Brown, McLeod, Long, Sharp, Howe, Fiss, Holland, Weiner

QUARTERMASTER-INDUSTRY CONFERENCE—Members of the American Cotton Manufacturers Institute visit the Quartermaster Research and Development Center at Natick, Mass., to confer with Quartermaster clothing technologists on problems of mutual interest. Shown are Walter L. Brown, assistant chief of the textile, clothing and footwear division at Natick; W. W. McLeod of Coats & Clark Inc., New York City; D. A. Long Jr. of Amazon Cotton Mills, Thomasville, N. C.; A. Sharp Jr. of Bemis Bros. Bag Co., Boston, Mass.; D. E. Howe of American Thread Co., New York; G. W. Fiss of Ewing-Thomas Corp., Chester, Pa.; Dr. V. B. Holland of Cannon Mills Co., Kannapolis, N. C.; and Louis I. Weiner, chief of the textile engineering laboratory at Natick.

New Pickers?

... then, think of what you get in ALDRICH PICKERS!



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AldricH MachinE WorkS

Greenwood, South Carolina

— READER SERVICE —
— READER SERVICE —
— SUBSCRIPTION CARD —

HOW SOUTHERN STATES COMPLETE COILERS AND CONVERSION UNITS CUT CARD ROOM OPERATING COST

Mill case histories prove over and over that Southern States coiler conversions pay for themselves in less than a year!

Adding up to lower operating costs and savings you can see are—larger cans with increased capacity . . . renewed life of old coilers, longer life of new coilers . . . lower maintenance costs . . . smaller parts inventories . . . simplified, more efficient handling . . . plus improved quality.

Recognizing that each mill is faced with different problems, Southern States has produced the most complete line of coiler and coiler conversion units available to the industry. Thus, regardless of sliver handling methods, or condition of existing equipment, Southern States makes it possible for your mill to enjoy all the advantages of larger cans at a price you can afford.

Complete details are in our Bulletin 201, which we'll send on your request. Better still, let our representative show how Southern States conversions can cut your card room costs.

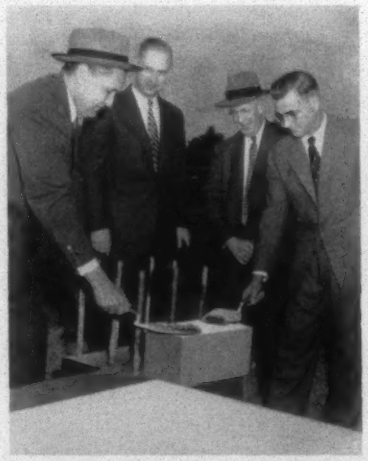
SS ®
SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

quantities of oil on adjustable time cycles. The bulletin describes in detail the cam mechanism that controls cycling. Two basic types, AA for frequent cycling and AB for infrequent cycling, are discussed in terms of feed requirements for specific machines. Two tables enumerate lubricators available for 5 basic drive speeds, for left or right-hand drive, and with cycling cam adjustable for a range of flow rates at various cycle times. Over 120 possible combinations of oiling service are available with the 20 standard Type A lubricators listed, and special units are available for applications outside this range. Reservoirs, oil filters and single-feed line distribution system are also described. Three photographs illustrate lubricators and detail parts. Five drawings show the internal mechanism and illustrate the oil feed principles involved.

(Request Item No. B-31)

Effective Communication

The average business executive spends 80 to 90% of his time communicating, Frank E. Fischer, director of the American Management Association's course in executive communication, estimates in *Effective Communication on the Job,* a handbook on face-



Elliott, LaDow, Spencer, Randall

CELEBRATING PROGRESS — With trowels in hand, Alabama Congressman Carl Elliott and A. H. Randall, executive vice-president of Alabama Mills, pack mortar during cornerstone ceremonies for the new Aliceville, Ala., mill of F. C. Huyck & Sons. Looking on are C. V. Spencer, vice-president in charge of operations for Huyck, and C. W. LaDow, who will manage the mill.

The new mill, which will be completed in May, will afford the increased production capacity needed to keep pace with the growing demand for Huyck compressive shrinkage blankets and other industrial fabrics, provide needed space for new products currently in development, and enable the company to furnish better service of all types to its customers. It will employ approximately 300 people and represent a total investment of over $4,000,000.

to-face communication in industry just published by the association. Communication—trying to understand someone or trying to make him understand us—is the "x factor" that means the difference between success and mediocrity in the manager's job, according to Mr. Fischer. "It is perhaps the highest, the most exacting skill of management. Possibly it is also the most neglected." Mr. Fischer is one of 22 authors who contributed chapters to the 296-page book, which covers every aspect of getting ideas across in business—to individuals and to groups, orally and in writing. (Request Item No. B-32)

Textile Quality Control Papers (Vol. II)

(Vol. II, D. S. Hamby, Editor; Textile Division, American Society for Quality Control, 50 Church St., New York 7, N. Y.; 238 pps.; $2 for society members; or $4 for non-members.)

In this second volume of *Textile Quality Control Papers*, another contribution is made toward filling the need for information on application of quality-control techniques to textile manufacturing. Included are papers

Warren, Odell, Ahrendt

RETIRING AFTER 36 YEARS WITH UNIVERSAL WINDING CO. is W. S. Warren, vice-president in charge of domestic sales, who is pictured with King Odell and Walter Ahrendt, machine assemblers whose retirement was also announced Feb. 2 at the company's 25-Year Club dinner in Providence, R. I. Mr. Warren joined the Universal sales department in 1919 and served as its New England agent from 1926 to 1946 and as sales manager from 1946 to 1951. He was elected vice-president in charge of domestic sales in 1951.

Succeeding Win Warren as domestic sales vice-president is Robert S. Pennock, formerly a general partner of L. M. Demarest & Associates, New York City, who joins Universal next month. Other changes announced by company President Robert Leeson were the election of J. Alan Nasmith to the post of vice-president in charge of the export division; the appointment of Henry H. Richardson as export sales manager in charge of Europe, the Middle East and southeast Asia; and Leopold E. Ffrench to a similar position for Latin America and the Pacific area including Japan and Korea.

NOW! Efficient
PICKER ROD LUBRICATION

WITH NEW GARLAND ROD LUBRICANT AND APPLICATOR

Garland has finally solved the problem of a picker rod lubricant that eliminates oil drip, regular grease pile-up, excessive friction, overheating, frequent loom stoppage, and other disadvantages of old methods.

It's the sensational new Garland Rod Lubricant and Squeeze Slide Applicator.

Garland Rod Lubricant contains exactly the right amount of tackiness to adhere to the rod for high efficiency.

Loom operators welcome the Garland Squeeze Slide Applicator that screws on, to replace tube cap. Fits all rods and spreads a thin uniform film of grease. Fewer applications are required, saving time. Oil spotting of cloth is completely eliminated.

Write today for details of this wonderful new product . . . already acclaimed by loom operators.

Garland MANUFACTURING CO.
Manufacturers of RAWHIDE LOOM PICKERS • SPONGE LEATHER BUNTERS • RAWHIDE HAMMERS AND MALLETS
55 WATER STREET • SACO • MAINE

delivered at the annual conference of the Textile Division, American Society for Quality Control, and several independently contributed papers; a total of 22 in all covering elementary and advanced statistical methods and management of quality control in the areas of fiber quality, yarn and fabric manufacturing, and finishing quality. In addition, the volume contains an up-to-date and highly complete bibliography on quality control in the textile industry, and reports from four task groups of the Textile Division.

Practical Textile Chemistry

(By J. W. Bell, Ph.D.; Chemical Publishing Co. Inc., 212 5th Ave., New York 10, N. Y.; 249 pp; $4.75)

This work simplifies the study of textile processing, identification and testing techniques as they developed from their empirical beginnings into an applied science. Its major part is devoted to wool, with 193 experiments divided into 4 main parts. Part 1, the structure and properties of wool, is concerned with the growth, purification, morphology, constitution and molecular structure of wool. The processing of wool is the subject of the next 2 parts. The first deals with oils, soaps, wetting agents, detergents and water, while the second covers the processes used in the preparation and finishing trades. An important chapter in Part 3 discusses the identification of faults. Part 4 lists special tests for animal fibers, silk, cotton, bast fibers, etc. It gives also tests for mercerized cotton and crease-resistant fabrics, lignocellulosic fibers and for the following fiber mixtures: wool and nylon, cellulose acetate and others, cotton and viscose rayon, cotton and regenerated cellulose, silk and nylon, wool and regenerated protein, etc.

Tariff League Publication

United States membership in the Organization for Trade Co-operation could place the national economy under the international direction of an organization which "promises rapidly to become the biggest economic planning center outside Soviet Russia," The American Tariff League warns in a new publication. The Organization for Trade Co-operation, O.T.C., is a new international body which has been set up to administer the General Agreement on Tariffs and Trade, G.A.T.T. United States membership was proposed to Congress last April in H. R. 5550 and was endorsed in this year's state of the union, budget and economic report messages. "If this measure is adopted," League President Karl H. Helfrich said, "Congress will water down its constitutional control over many aspects of our domestic economy, including the farm program, defense stockpiling, monetary policy and even its right to impose price controls. These are examples of activities over which G.A.T.T. can claim authority, and which O.T.C. would be the agency to enforce."

Entitled *Trouble With G.A.T.T.-O.T.C. and H. R. 5550,* the new League publication cites G.A.T.T. to show that it would have authority "under varying circumstances" to determine "what proportion of a country's market for a given product foreign producers should be allowed to supply . . . a country's fair share of the world export market for a given product . . . a country's fair share of raw materials and other products in short supply," the publication points out. "Thus, instead of liberating international trade, G.A.T.T. is meddling with it, and with the domestic affairs of member countries. Indeed, combined with O.T.C., G.A.T.T. promises rapidly to become the biggest economic planning center outside Soviet Russia. In O.T.C. each member has one vote. The Grand Duchy of Luxembourg, with 300,000 population, will have the same vote as the U. S., with a population of 165,000,000. Communist influenced countries will also have a vote of the same weight as the U. S." All of the 35 member G.A.T.T. nations, including Communist Czechoslovakia, are eligible for O.T.C. membership. "Americans will be mistaken," the publication states, "to consider H. R. 5550 as purely a tariff measure. Though tariffs are part of the O.T.C. question, the basic issue is not free trade versus protection. At stake is the right of Americans to have decisions affecting their standard of living and national security made by their own representatives. Membership in O.T.C. could move many of these decisions to an international tribunal, in which we have but one vote and no veto. Be tariffs high or low, Americans must reserve to themselves the right to decide." Copies of the report are available from The American Tariff League Inc., 19 West 44th St., New York 36, N. Y.

Brightening Agents

(Bibliographical Abstracts on Evaluation of Brightening Agents for Detergent Usage; American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; 9 pp., 6 x 9, heavy paper cover; $1.50)

This bibliography has been prepared by Lloyd E. Weeks of the Monsanto Chemical Co., a member of Subcommittee T-5 on physical testing of A.S.T.M. Committee D-12 on soaps and other detergents. Thirty-seven titles and abstracts are included. References are numbered consecutively and are listed by year and then by author or by journal if the article is anonymous. Brightening agents are essentially colorless dyes which, when applied on textiles, absorb ultraviolet irradiation and emit light of a blueish hue complementary to the yellow tint already present on the off-white substrate. In this manner the brightening agents impart a greater apparent whiteness to the materials treated. Although originally applied to paper, brighteners were incorporated in detergent compositions about 1945.

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(U. S. Patent Nos. 2,516,632; 2,516,633; 2,516,634)

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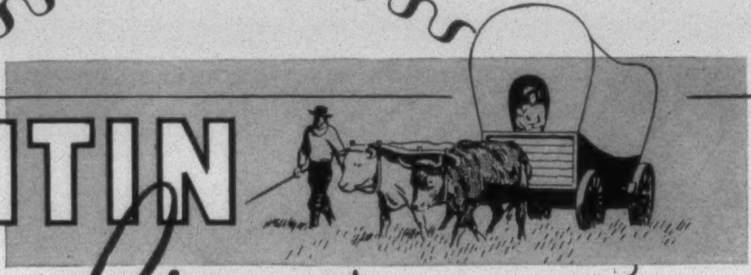

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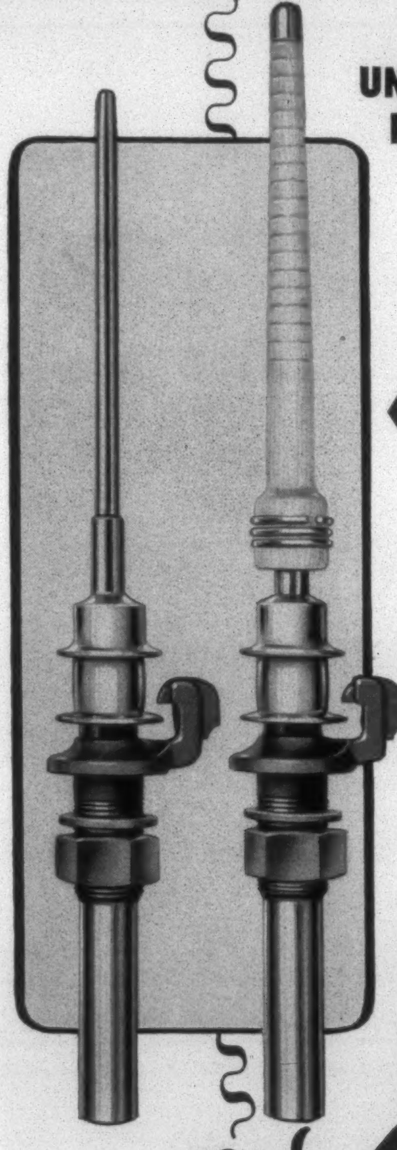

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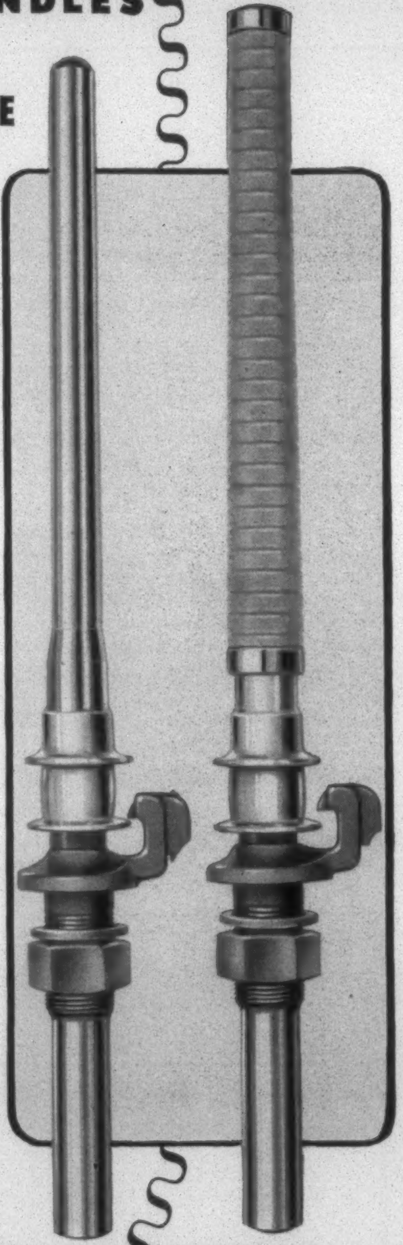
This spindle for paper tubes is acclaimed by the users of approximately 2,000,000 as unmatched for its long wear, simplicity in plumbing and maintenance, smooth running characteristics, and extremely low lubrication costs.



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Draper Corp. Opens New Wood Processing Plant

The Draper Corp. of Hopedale, Mass., has opened its new plant at Swannanoa, N. C., for sawing, drying and storing dogwood and hickory blocks. The new plant, with 30,000 sq. ft. of floor space, replaces the company's plant at Biltmore, N. C. The new plant was located in Swannanoa to be close to an ample source of dogwood timber and hickory wood. Approximately 200 persons are employed at the plant.

National Ring Traveler Co. To Move Southern Offices

National Ring Traveler and Sterling Division of Pawtucket, R. I., will move its Southern offices and warehouse from Charlotte, N. C., to a new building now under construction near Gaffney, S. C. According to L. Everette Taylor, manager of the Southern division, the new quarters will be ready about April 1. The new location is on U. S. Highway 29 about one-half mile south of the S. C. State Highway 18 intersection. Some of the personnel at the Charlotte office, at 1215 E. Fourth St., will move to Gaffney when the office opens. The Southern office handles the company's business in Alabama, Georgia, the Carolinas and Virginia. The move to Gaffney was determined by the need for more space, Mr. Taylor reports.

Construction Started On Saco-Lowell Plant

Saco-Lowell Shops, in its annual report for 1955, discloses that the site for its new plant near Easley, S. C., will be named Hale, commemorating Frank J. Hale, who served for many years as general agent for the company and contributed greatly to the growth of the Southern textile industry. Designed by Lockwood Greene Engineers Inc., the new plant will consist of a completely air conditioned, 1-story structure of contemporary design. The plant will produce both complete textile machines and replacement parts. Daniel Construction Co. of Greenville, S. C., has already broken ground on the project, and the plant is expected to be ready for occupancy by late Summer. In the meantime, 30,000 square feet of warehouse space has been rented in Easley for temporary offices and as a training area for local personnel the company intends to employ in the new plant. The year-end report also notes that the company is still in the process of moving its New England textile machinery manufacturing operations from the old plants in Biddeford, Me., to the new Edwards Plant in Saco, Me. Most of these facilities will have been moved to Edwards or to the Easley plant by the end of 1956.

Concord Chemical Acquires Standard Soap Company

The Concord Chemical Co. of Moorestown, N. J., has acquired the plant and major assets of the Standard Soap Co. of Camden, N. J., and will move its plant and offices to the new location, 205 S. Second St., Camden. Standard Soap Co. will operate as a division of Concord, also under the same management, continuing its manufacture and marketing of a complete line of soaps, cleaning compounds, disinfectants and textile specialties. Known for many years for its Yorkshire textile soap, Standard also produces textile wetting agents, scouring compounds, dye leveling agents, fulling compounds and textile finishes. Concord is known for its waxes, primarily Carnauba and Japan wax replacements, as well as a number of specialty wax products.

Du Pont Acquires Cheney Brothers Dyeing Process

The Du Pont Co. has announced the recent purchase from Cheney Brothers of Manchester, Conn., of the technology of a process for applying acid dyes and capracyl dyes levelly to woven filament nylon fabrics in a covered jig. The process reportedly produces dyeings with acid colors as uniform and level as normally observed with disperse dyes. It is also said to improve the dye light fastness, particularly for dull nylon, and effects a saving in the amount of dye required. There is essentially no change in wet fastness properties of dyeings with acid colors when the Cheney method is used.

The Cheney process, which has been practiced by the firm commercially for the past two years, may also be applicable for other fabric types, such as tricot. Du Pont is working on this development at present. The process requires certain special handling techniques. Its release will be through the company's organic chemicals department's district offices which specialize in dyes and dyeing problems. These offices, the company said, will describe how the process can be used and the advantages that can be expected from it.

Fletcher Works Sold To Edward T. Taws

Fletcher Works Inc., Philadelphia, Pa., textile machinery manufacturer, will concentrate on producing more efficient and higher-speed equipment, according to Edward T. Taws, who purchased the firm from Morris Chaitlen. Mr. Chaitlen, Brooklyn, N. Y., confectionary manufacturer, reportedly paid about $1 million for the Fletcher Works at the time he purchased the firm only three months ago. The purchase price paid by Mr. Taws was not disclosed. Mr. Taws is also president of Pennsylvania Ribbon Manufacturers Co., Brinton Machine Co. and the Brinton Foundry, Philadelphia. He said he plans to sell the Pennsylvania Ribbon firm. He is also treasurer of Delaware Ribbon Manufacturers Inc. Fletcher, which produces narrow fabric looms, extractors and throwing machines, will install new

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equipment to increase production and improve its products. Charles W. Moore continues as sales manager.

Sonoco & Mead Board Named Agents For Accopak Pallets

Sonoco Products Co. of Hartsville, S. C., and Mead Board Sales Inc. of Lynchburg, Va., have been named manufacturers and sales agents for Accopak pallets, the new and unique device for industrial palletizing, according to the industrial chemicals division of American Cyanamid Co. Responsibility for Accopak pallets in Sonoco will be handled by A. W. Du Bose and at Mead by E. R. Harris. The paper pallet, which can support a load up to 4,000 lbs., consists of a kraft paper sling fitted with spiral-wound paper tubes. It is adaptable for use with any type of fork lift truck equipped with a new type bayonet fork. The pallets are said to be inexpensive, require little storage space and are easily and quickly assembled.

Cogswell Co. Establishes Industrial Roll Division

Lloyd B. Cogswell Mfg. Co., Springfield, Mass., has announced the establishment of an industrial roll division. James R. Sisson has been named general manager and sales engineer of the new Atlas Industrial Roll Division, which will supply industrial rolls for the textile industry, as well as special machinery to specifications. The company specializes in stainless steel rolls in addition to a full line of jacketed, aluminum, brass and rubber-covered rolls. Complete service as well as research and development work is offered. Founded in 1912 to manufacture automobile parts and transmissions, the Cogswell lines have since been expanded to include knitting machines, special machinery for the textile industry and a wide variety of special equipment. The new Atlas Roll Division is housed at the company's plant in Springfield.

Greenville Belting Changes Its Name

Greenville Belting Co. of Greenville, S. C., has announced that it is changing its name to Schmidt Mfg. Co. of S. C. The Schmidt firm purchased Greenville Belting in October 1950 as a basis for the establishment of a Southern division. Since that time a new plant has been built, new machinery added and items of manufacture and sales expanded to include a full line of loom and weave room equipment. With these changes it was felt that the name Greenville Belting was no longer descriptive of the firm's over-all activities. The company has also announced the appointment of Oliver N. Walker as vice-president of sales.

Cellulose Research Section Reactivated By Avisco

The American Viscose Corp. has reactivated the cellulose section of its research and development division at Marcus Hook, Pa., according to Dr. Herschel H. Cudd, vice-president. Dr. Wayne A. Sisson has been named leader of the section which will

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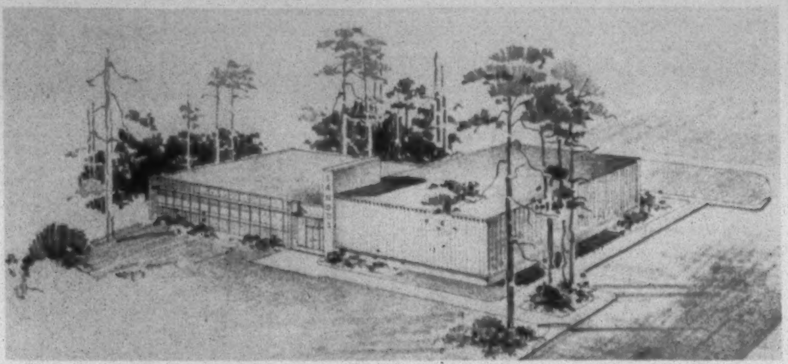
be responsible for studies aimed at establishing basic principles of cellulose structure and behavior and relating these to present and future products. Dr. Sisson, who has been with American Viscose since 1940, has been leader of the tire yarn section. Five other appointments to the cellulose section include Dr. Bengt G. Ranby, Dr. Robert H. Marchessault, Dr. Leland B. Ticknor, Dr. James Russell and Edward Hicks.

Monsanto To Boost Its Melamine Resin Production

The chemical melamine facilities of Monsanto Chemical Co. at Everett, Mass., are being consolidated and modified to permit further manufacturing efficiencies and increased production. The changes, which will not require shutdown, are expected to be completed by the end of May. The entire output of the Everett plant, which has been in operation since 1950, is used as a raw material in the company's line of melamine resins for the textile and other industries.



NEW SANDOZ FACILITIES FOR CHARLOTTE—Enlarged laboratory, office and warehouse buildings are being constructed for Sandoz Chemical Works Inc. at 4000 Monroe Road, Charlotte, N. C. The structures will include the latest equipment for the application of dyestuffs and chemicals to all types of fibers. The Charlotte branch, now at 1510 Camden Road, will continue under the direction of Frank P. Mackinney, manager of Sandoz's Southeastern territory.

James C. Walker, executive vice-president of Sandoz, has also announced that the company has acquired a substantial interest in Toms River-Cincinnati Chemical Corp., one of the nation's most modern vat dye manufacturing plants. Increased importance of this class of dyestuffs, he states, necessitated the construction of new facilities at Charlotte.

Standard Register Lauded By Management Foundation

The Standard Register Co., a manufacturer of business forms and record systems, has been termed "one of the best managed privately-owned enterprises in the country." The Dayton, Ohio, company was awarded the designation of "excellently managed" by the American Institute of Management following an extensive analysis of its management by that organization. The institute's study of the company, published for its 15,000 members, credited advanced management techniques for Standard Register's success in the office automation field. "Some of the company's methods and controls have reached a stage of maturity as much as five years beyond those of other organizations of a similar size and character," the institute said in making its report.

Examining Standard Register in 10 categories of analysis, the institute gave the company a rating of 8,850 points out of a possible 10,000. The minimum for the excellently managed rating is 7,500. One of the unique features of the company cited by the audit report was the company's staff

Only ADAMSTOP* detects *all* of these ROVING failures

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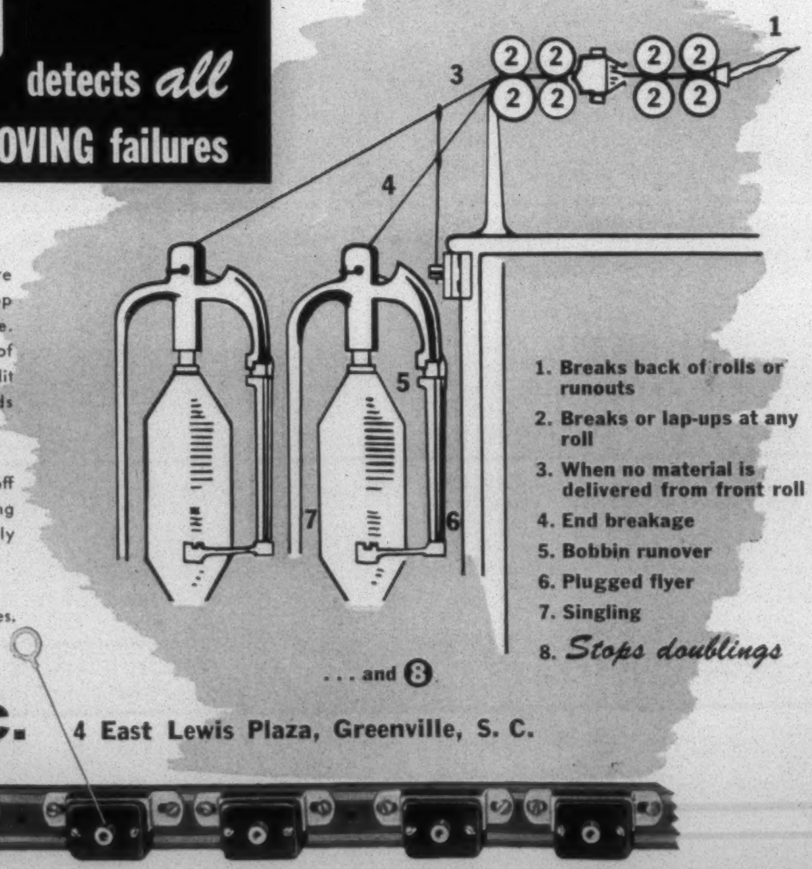

1. Breaks back of rolls or runouts
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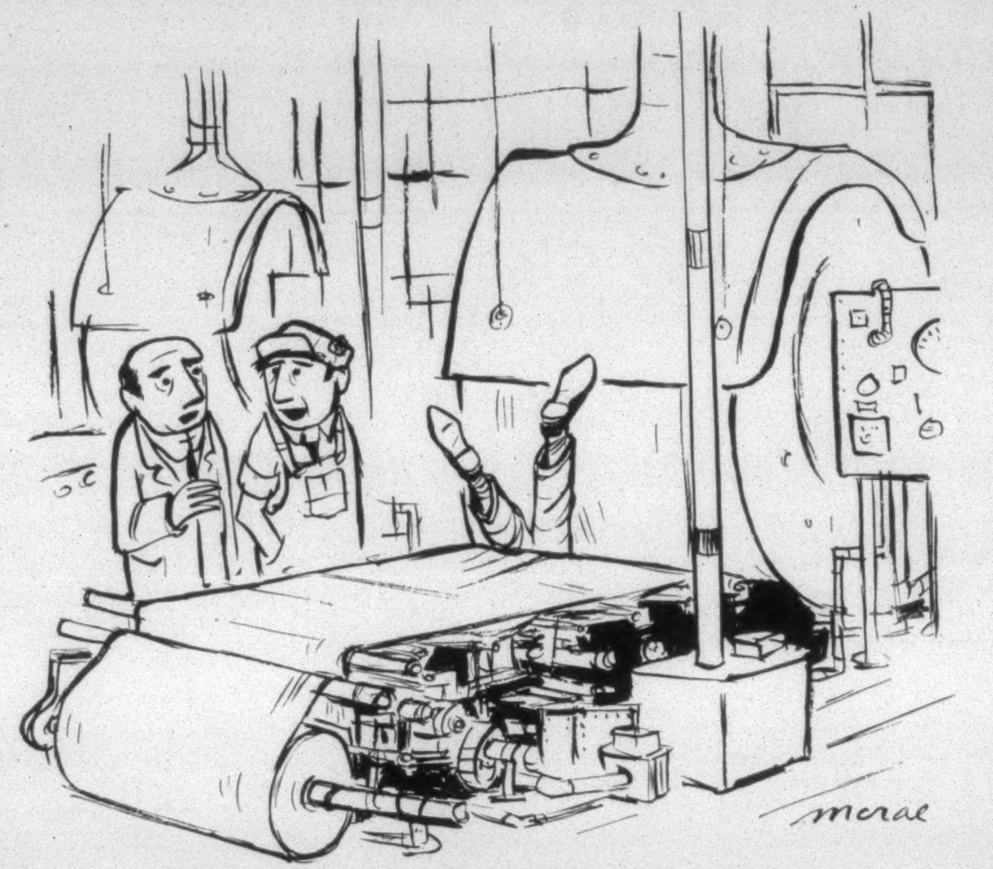

"Ol' Si's been around four times trying to locate the trouble."

Exaggerating? Just a bit perhaps, but your Seyco man honestly gets steamed up about tracking down your troubles. There's no limit to the time he'll spend or the things he'll do to help you come up with the right compound, or the perfect production answer. Get to know him better. Try to stump him with your questions. If he doesn't know the answers, he'll say so; come back to our labs and ask those who do.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

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Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

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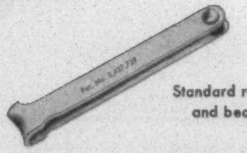
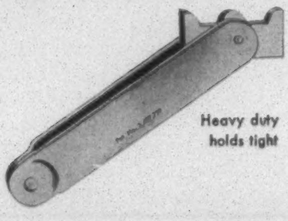


Standard roller and bearing



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department of statistical control. "This unit," the report said, "adaptable to the small organization as well as the large, is charged with consolidating information concerning all the activities of the company, reducing this information to chart form and presenting it to management for its day-to-day decision making." Standard Register's use of a committee and counsel system for administration was termed "one of the company's chief assets" by the report. "Management by consultation as opposed to directive is an integral part of Standard's efficiency," it noted. "This plan keeps the entire organization informed through constant free exchange of ideas and information. It establishes a clear line of communications from the board of directors to the individual workers." Among the 10 management areas examined by the institute were economic function, corporate structure, health of earnings, research and development, fiscal policies, and sales vigor.

Howard Bros. Mfg. Co. Marking 90th Anniversary

Howard Bros. Mfg. Co. of Worcester, Mass., is currently marking its 90th anniversary as a card clothing manufacturer. The company was founded in 1866 by Albert H., Charles and John Howard. They started with no more than two dozen machines. Today the company's operations require over 100,000 sq. ft. of floor space, with Southern offices and service staffs at Gastonia, N. C., and Atlanta, Ga. Commenting on the firm's growth through the years, Harry C. Coley, chairman of the board, states: "Our 90th birthday, as we see it, is just a springboard from which we'll leap to our 100th—with increased agility, strength and resourcefulness."

Celanese Awards First Development Lab Contract

Celanese Corp. of America has announced the award of the general contract for the first unit of Charlotte, N. C., development laboratories to Boyd & Goforth Inc. of Charlotte. The unit, to be known as the process development laboratory, will be located on a 114-acre tract recently purchased by the company on Reid Rd., approximately 2 miles from the Celanese office building and will contain 30,000 sq. ft. The building will be "L" shaped with the main portion housing offices, labs and pilot area and the wing providing space for shops, storage and utilities.

Improved Communication System Set Up By Duplan

A new expanded teletype and telephone network that provides production checking service for customers inquiring about yarn throwing orders has been started by The Duplan Corp. to speed up contacts with its customers. It is expected that this new method of handling requests may obtain information for customers in as little as half the time formerly required. This new plan was announced by William A. Wood Jr., sales manager, who stated that all 3 regional sales offices have direct contact with all 4 throwing mills and the central sales headquarters in Charlotte, N. C. All of these direct contacts can be used if fast information service to customers is required. Mr. wood reported that this improved service is part of a new company-wide reorganization plan which involved discontinuing the Greensboro, N. C., sales office and expanding the Forsyth Throwing Division sales office at Winston-Salem, N. C., into the Southeastern sales office. In addition there are both changes for better service by salesmen, and also improved production in the company mills.

Clark Equipment Co. Opens Development Center

Clark Equipment Co. of Battle Creek, Mich., has announced the opening of its new materials handling development center, established to develop materials handling methods for individual industries. In explaining the function of the new center, Robert H. Davies, vice-president of Clark's industrial truck division, said: "Materials handling problems are becoming so complex it is difficult to develop a single handling machine or method that can be used by all industries. Emphasis must now be put on analyzing and finding solutions for handling problems of individual industries. This is what the development center will do." The center, with some 20,500 square feet of space, is equipped with both indoor and outdoor "proving grounds" and test areas.

Trust Co. Of Georgia Reports Record Earnings

The highest earnings in the 65-year history of Trust Company of Georgia were reported to stockholders at their annual meeting held last month in Atlanta. John A. Sibley, chairman of the board, told stockholders that consolidated net earnings after taxes of Trust Company of Georgia and its wholly-owned subsidiary, Trust Company of Georgia Associates, for the year ending Dec. 31, 1955, were $2,132,105.05 as compared to $1,916,798.81 for the year 1954. In addition, Trusco Finance Co., wholly-owned subsidiary of Trust Company of Georgia Associates, had net earnings after taxes of $201,426, all of which was added to the surplus of that company. Regular dividends of $800,000 were declared to stockholders of Trust Company of Georgia and an additional $80,000 was declared as a year-end dividend. $1,071,610.56 was added to undivided profits. Mr. Sibley noted that the high level of business activity created a strong demand for loans, and the employment of funds by the banking department and the factoring division was the highest in the history of the bank. At the end of the year, total loans were over

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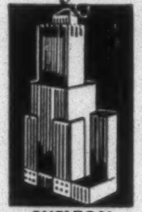
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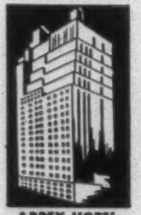
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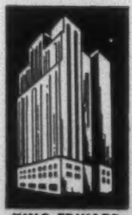
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$90,000,000, an increase of 21.4% over the previous year. "The company has met the requirements of its customers for sound credit," Mr. Sibley said. "Our adequate banking capital and our capital reserves of non-ledger investments place us in a uniquely strong position to do so."

Ludell Mfg. Co. Buys Bready Systems Patents

Ludell Mfg. Co., Milwaukee, Wis., manufacturer of heat exchangers and water processing equipment, has purchased the patents and rights to manufacture and sell the Bready systems of waste heat recovery and hot water heating. The Bready systems of recovering heat from process waste water and systems of hot water heating are a development of William and John Bready, Milwaukee engineers.

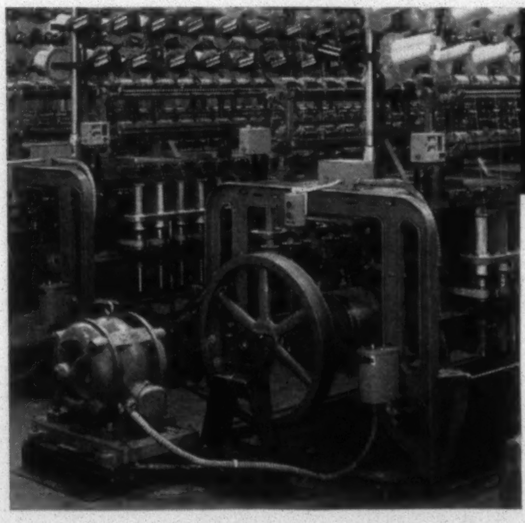
CIBA'S NEW ATLANTA DEPOT—Located at 534 Permalume Place, N. W., is an important link in the chain of Ciba Co. facilities to serve the rapidly growing Textile South. Substantial inventories covering the broad range of Ciba products will be maintained at the new Atlanta warehouse for prompt shipment to mills that can be most efficiently served from this point.

Theiler Takes Over American Schweiter

H. J. Theiler Corp., Whitinsville, Mass., has taken over all sales and service activities of American Schweiter Co., subsidiary of Schweiter Ltd., Horgen-Zurich, Switzerland. The company will handle the Schweiter Vario cone winder, Type KM for winding from skeins or any other package to cones; the Schweiter Monofil coner, Type KEK-PN, for winding Helanca and textured yarns as well as fine denier monofilament nylons. Theiler was also recently made a special sales agency for Whitin Machine Works' Whitin-Schweiter Fill-Master filling winder for weaving mills. American Schweiter, a stockholder in Theiler, continues as a corporation, but is not carrying out any functions. Theiler, incorporated in Massachusetts in 1949, owns a plant in Whitinsville and has offices and sales and service engineers in Whitinsville and Spartanburg, S. C.

Brown-Rogers-Dixson Buys Montgomery & Crawford Inc.

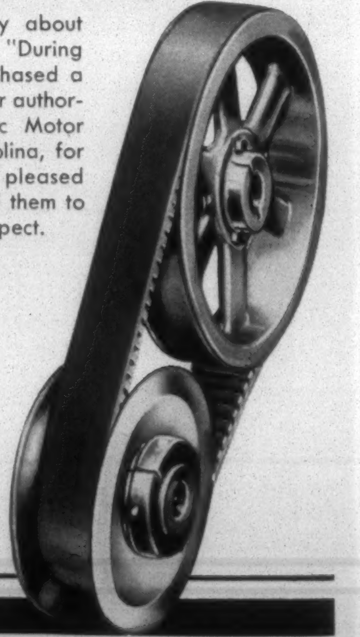
Brown-Rogers-Dixson Co. of Winston-Salem, N. C., has acquired Montgomery & Crawford Inc. of Spartanburg, S. C. Montgomery & Crawford will continue its wholesale hardware operation at Aiken, S. C., and its manufacturing operation at Decatur, Ala. The Spartanburg operation will be conducted under the name of Brown-Rogers-Dixson.



a North Carolina mill executive* says "we encountered no freeze-up difficulties with WOOD'S VARIABLE PITCH SHEAVES"

Positive locking prevents fretting corrosion . . . flanges quickly—easily released for speed change.

Here's what one user has to say about Wood's Variable Speed Drives: "During the past two years we have purchased a number of these drives through your authorized distributor, Triangle Electric Motor Company, of Durham, North Carolina, for use on our cotton twisters. We are pleased to inform you that we have found them to be highly satisfactory in every respect.



"No difficulty at all has been experienced in obtaining the speeds we want within the range specified. Neither have we encountered any difficulty from the Variable Sheave's freezing up. Apparently you have overcome these problems in your design, as these drives can be adjusted to any speed within their range very quickly and easily.

"Regarding the belt life, we have several of your drives that have been operating for almost two years, and the belts show no indication of any appreciable wear."

For complete information on the most talked about drive in the Spin-Weave industry, write for Bulletin # 497 and the name of your nearest Wood's Distributor. No obligation.

*Name upon request.

Wood's **T. B. WOOD'S SONS CO.** CHAMBERSBURG, PA.

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400,000 *spindles can't be wrong!!*

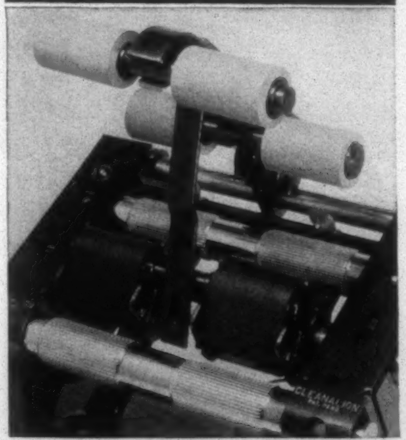
CLEANALIGN SADDLES have been specified in some of the world's largest mills . . . over 400,000 are now in daily use. Maintenance men *know* that CLEANALIGN saves money . . . increases production. Product Acceptance has been gained by Product Performance!

CleanAlign Saddles

PATENT PENDING

give you 5 *Big Benefits!*

NO CAP BARS
CLEANING AREA REDUCED 2/3's



Typical installation, above, shows *CleanAlign* Saddle in use with UNILINE Non-Lubricating Top Rolls in back and middle lines and with CLIMAX Ball Bearing Top Rolls on front line. Rolls swing up for easy cleaning.

- **CleanAlign Saddles** require no lubrication . . . thus eliminating oiling expense;
- **CleanAlign Saddles** assure oil-free yarn — always . . . minimizing rejects, saving production costs;
- **CleanAlign Saddles** afford wide variety of weight distribution, quickly and easily changed;
- **CleanAlign Saddles** maintain rolls in perfect parallel alignment at all times;
- **CleanAlign Saddles** can be applied to practically any cotton spinning system.

These five big benefits assure top yarn quality, stable production, decreased costs, increased volume. Accrued savings from these operations pay for *CleanAlign* installations many times over — *average annual return 25%.*

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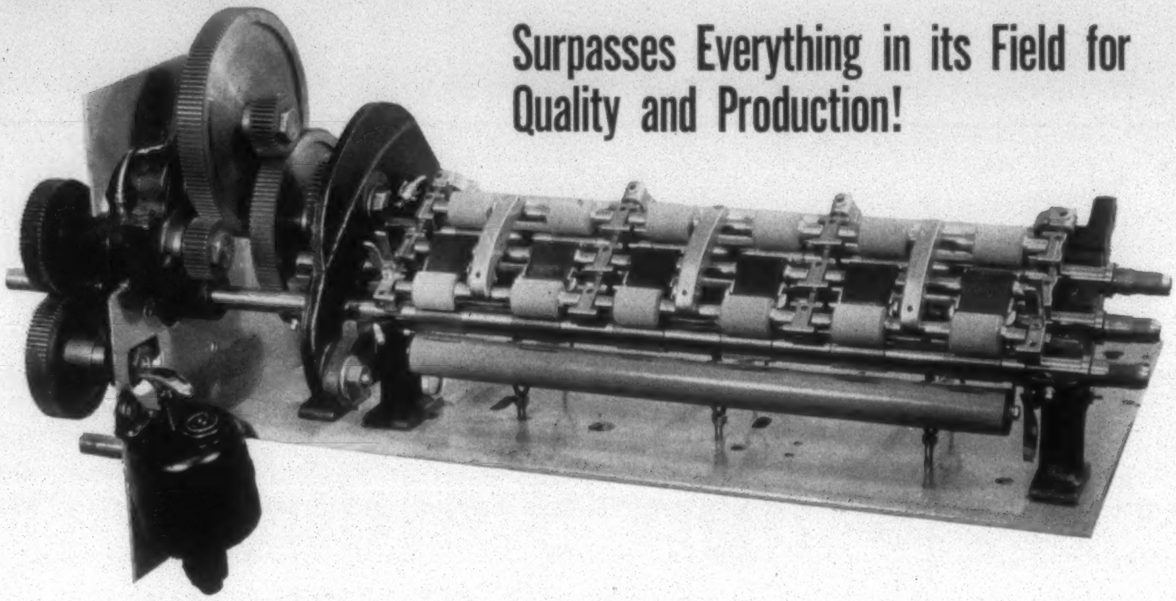

Results in actual operation prove drafting range 10 to 50 with less variation. This advanced machinery assures higher break, less ends down per thousand spinning hours and top roll cleaning once a week.

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textile bulletin

VOL. 82 FEBRUARY 1956 NO. 2

Effects Of The New $1 Minimum Wage

By J. BURTON FRIERSON, President, Dixie Mercerizing Co., Chattanooga, Tenn.

A warning that rapid adjustments must be made if heavy losses and possible mill failures are to be avoided was given by Mr. Frierson in a recent discussion of the new minimum, which becomes effective the first of next month. He makes it clear that the problem is one to be faced by all mill interests, and cautions against the postponing of adjustments.

THE question—what effect will the $1 minimum have on your costs?—is heard everywhere. Unfortunately many people—and perhaps it is the natural thing to do—simply go through their payroll, determine the number of employees earning less than $1 and calculate the total dollars required to bring all employees to the $1 minimum. Others, whose minimum is now $1, or even higher, state proudly that the new minimum will not affect them. It is apparent that both of these answers are without foundation and are completely inaccurate.

All of us who buy materials and supplies are faced with maintenance of reasonable differentials between job skills, and our wage rates are influenced by wage structures within our industries and within our localities.

This is the third increase in the required minimum wage within approximately ten years. It was increased to 40 cents an hour in late 1945, to 75 cents in January 1950, and now a $1 minimum by March 1.

The records clearly indicate that any increase in the minimum always brings about a substantial increase in the *average* hourly wage of an industry. Our cotton textile industry average in late 1945 was 165 per cent of the then new minimum of 40 cents—but following the establishment of this 40-cent minimum—the average, within a short time, rose 21 per cent—a tremendous increase even in light of the inflationary forces prevailing at that time. Again, when the minimum was raised to 75 cents in 1950, our industry average had moved up to a level of 150 per cent of this new minimum. With such a spread between the average and the minimum, one might assume that only minor adjustments would be made, insufficient to have any material effect on the industry average. But, again the cotton textile industry average wage increased 11 cents an hour in a matter of months, which was approximately the same as the hourly increase following the establishment of the 40-cent minimum.

On March 1 the minimum will be raised to $1 per hour. The present industry average is only 130 per cent of this new minimum as compared to 150 per cent of the minimum of 75 cents when that was made effective. It is apparent that more people will receive, and more mills will grant, wage increases occasioned by the $1 minimum, than were involved in any of the past changes. The immediate effect is a substantial increase in the cotton textile mill average wage. Adjustments within plants for maintenance of proper differentials will be a continuing and gradual process throughout the year.

At present there are approximately 330,000 people employed in cotton mill operations, that is, spinning and weaving—197,000 men and 133,000 women. On full-time basis each one cent an hour increase in *average* hourly wage represents an industry cost increase of $6,600,000—ten cents an hour, $66,000,000 annually—this, in an industry that netted only one per cent on sales in 1954.

In the past, when our industry has been confronted with these inflationary movements, it has been able to absorb all or part of the cost increases because of satisfactory profit margins; whereas the one per cent profit margin that we mentioned (the lowest in any major industry) most certainly is not adequate and does not permit the absorbing of such substantial cost increase.

Recently I had opportunity to study a survey of approximately 600 manufacturers within a rather large area in the South, both large and small, in all lines of business, and including approximately 120,000 employees. Two-thirds of these manufacturers presently have a minimum wage rate of less than $1 per hour and over two-thirds indicated that they would increase their selling prices to absorb these increased costs. Many of these manufacturers are suppliers of materials and machinery. Our purchasing department prepared for me a list of only a few of the principal items that we purchase, and has indicated price increases which have already been made during the past three months. The following is enlightening:

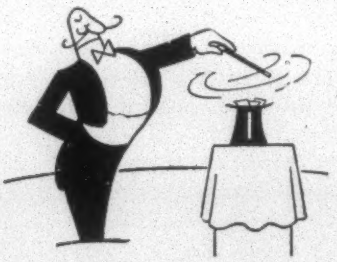
Coal	up 6%	Dyestuffs	up 10%
Plywood	up 10%	Card clothing	up 10%
Waxed paper	up 10%	Dye machinery	up 11%
Corrugated Cases	up 8%		

Our purchases of these items alone run in excess of $1,000,000 a year. We have made no changes in our mercerized yarn prices since July and hence none of those added costs are reflected in our present prices.

Cotton we will throw in with a question mark as to *long range* trends but with reasonable assurance that it will be no cheaper, and possibly higher, until the Fall crop of 1956 is harvested. Cotton consumed from August through November is in excess of last year by approximately 200,000 bales. The free supply—that is cotton in the hands of others than Uncle Sam—is now well below that of the past few years. Cotton for domestic consumption prior to new crop which, in our case, is late October or November, is obtainable only from this limited free supply or from the government loan stock. If acquired from the loan stock it must be at prices higher than today's market, and that price cannot be changed except by an Act of Congress. 1956 is an election year and neither political party is going to take the lead in sponsoring legislation in the coming months which will depress farm commodity prices.

Iit is important that the substantial cost increases facing the industry in the next few weeks not be confused with the steadily increasing costs that we have labored under for each of the last several years, with little or no price increase. The cotton yarn industry has done a marvelous job in absorbing these steady annual increases; profits have suffered some but absorption of the bulk of these costs has been accomplished by improved methods, more efficient operations and most important, investment in modern equipment. Our company is not a large operation as compared to many in the industry. Our net plant investment is approximately $8,000,000 and our average expenditure on modernization has averaged over $1,000,000 for each of the past five years. This doesn't include any increase in production capacity—in our case added spindles. Through this investment in modernization we have been able to substantially increase production per man-hour and effect quality improvement. We are no exception. Such improvements are going on throughout the industry. Only because of this substantial outlay for modernization has the cotton spinning industry been able to maintain its prices relatively unchanged for three or four years. Now we are faced with sudden and abnormally higher costs, brought about by conditions over which we have no control, and we must call on all those who have a part in merchandising and utilizing our product to understand and to sell others these logical reasons why higher prices are an absolute necessity.

These increased costs are not temporary. This is a basic and permanent change in the cost structure of textiles. It is well that this fact be recognized so that textile products can be bought and sold with confidence. We should not attempt to solve this problem by the cheapening of the products that we supply to the consumer; this could only be a temporary expedient and a most unfortunate approach for us to take. This high level of cost is permanent and unless we who produce and you who sell are convinced of this, our chances of being permanently out of business will be better than our chances of being permanently in business.



The Simple 'Magic' Of Safety Training—Work & Planning

By WILLIAM A. HAWN, Training Director, Graniteville (S. C.) Co.

OUR plant has grown in 110 years from one plant to six greige mills and two finishing plants with an average work force of about 4,500 people. Graniteville has had a safety record for the past ten years which has shown us that improvement in safety will come as a result of intelligent work and planning just as surely as it comes in any other field.

Not too much was done to keep accurate and uniform safety records before World War II, but beginning in 1943, we had a frequency of 37.1. Our frequency for 1944 was 13.5 and for 1945 it was 5.1. Since then the frequency range has been from 3.7 (high) for 1947 to 1.47 (low) for 1951. The record for 1954 was 2.81.

Safety Training

Graniteville Co., like most manufacturers, had its share of war contracts during World War II. And, like most companies during the war, our company saw the need of, and took advantage of the offerings of the training agencies set up by the Federal Government.

We took advantage of the 96-hour course in safety engineering offered by Engineering, Science and Management War Training, and the J-programs offered by Training Within Industry under the direction of the War Manpower Commission. From our studies in the early war years, there arose a consciousness of a need for safety training that would give the first line supervisor and safety committeemen the tools necessary to help reduce accidents.

Job instructor training and job relations training had been of inestimable value to us as job training and human relations tools. Could a similar tool be developed in the field of safety? We wanted a tool that would be applicable in any department. We were looking for some basic fundamentals of safety. I believed that such a course could be developed and volunteered to give it a try. This was in the Spring of 1944. By late the same year we had a manual ready for our trial run. During the following year, we gave this safety training to all supervision from shift foreman through superintendent, and then continued to give it to all new supervisors and safety committeemen over the next five or six years.

This edition of the training was given to 500 or more people. We completed the revision of this course in 1953 and gave it to all supervision as a refresher or new safety training, beginning with shift foremen and going through general superintendents during the rest of that year and the first half of 1954.

The original course was planned so as to have five two-hour sessions and was given daily. The supervisor needed

Graniteville, with its 4,500 workers, has an enviable record of safety for the last decade. Here, in remarks to the textile division of the National Safety Council at its congress last year, Mr. Hawn tells how the record was accomplished.

(1) to know the basic causes of accidents; (2) he needed to see a typical accident and see how a fellow supervisor handled it; (3) he needed to have a fuller knowledge of housekeeping; (4) he needed an intimate knowledge and know-how of material handling in his department; and (5) he needed to know the things that he, as a company representative, was responsible for in the accident situation.

These were the five sessions of our first safety training course. It wasn't all-embracing, but it started the supervisor off on the right foot. Several conditions had to be met in this training. It could not be a lecture course. We wanted plenty of group participation. By planning the sessions along the T.W.I. pattern, we were able to fill this requirement. To further this idea of participation, only two of us (both certified T.W.I. trainers) gave the safety training. Feeling that the full mission of any safety program is to prevent accidents, we called our course, "Ten-Hour Safety Training in Accident Prevention."

As this training became general in our plants, it had a bearing on our safety performance. The training as such did not make the improved record, but made it possible for those administering the safety program to be more effective. It was a co-operative effort.

Accident prevention has come a long way since 1944. At that time no safety gathering was complete unless there was a discussion of guarding or improving guards on machinery. Today, safeguards are past the talking stage. Designers of machinery start with the safety features and work out from there. Guards are no less important today than ten years ago, but they have come of age and we can lay the major stress on other points today.

To benefit from the increased knowledge of accident prevention, and our own experience, we revised our "Ten-Hour Safety Training in Accident Prevention" during 1953.

Supervisors Trained

Not only must supervisors work safely; they must teach others to work safely. If an accident prevention program is to be successful, the work force, as well as supervision, must want to work safely. How can we get them to want to work safely? We think by the following ways:

(a) *By attaching more importance to safety.* Make it equal in importance with quality and cost; make safety a co-ordinate part of production.

(b) *By giving the supervisor and the employee a working knowledge of the cause of accidents.*

(c) *By giving the supervisor an insight into some of the more common reasons that people have accidents.* We set up our goals and then selected the materials that we felt would come nearest to achieving them.

Develop Understanding

We decided to spotlight two things: accidental occurrence and the worker. An understanding of these two areas will do much to help prevent accidents. It is easy enough to accept an idea intellectually but do nothing about it; take that same idea and inject it with feeling and it produces action.

This was well illustrated in the safety picture, "Miracle in Paradise Valley." The community had been awakened, with posters and gimmicks, to the Saturday night safety meeting in the community house. The crowd was becoming rather noisy when John asked Joe (special-in-the-meantime-agent) what was wrong. Joe replied, "They came here looking for fireworks and won't be satisfied until they get it. They've got to get the idea in their hearts before you can get anything through their heads."

Too many of us are like the farmer when the salesman tried to sell him an encyclopedia on farming; he said, "You keep the book, I don't farm half as well as I know how to now." Getting people to do the things that they know how to do, and getting them to do them when they are under stress and without thinking is the goal of all safety training.

Session Subjects

The sessions of the revised course looked like this:

Session I—The Factors of an Accidental Occurrence; a typical accident; and developing a four-step method for investigating accidents.
Session II—Basic Accident Causes—review an accident.
Session III—The Supervisor—steps he can take to prevent accidents.
Session IV—Emotional Maturity—accident-proneness.
Session V—Mental Health—summarize.

In the first session we set the scene by explaining the purpose of the training, by explaining something of the nature of the sessions. The group was put at ease through establishing an air of mutual exchange of experience. The objective of the sessions was put on the board and discussed. The objective: to develop a higher skill in accident prevention through a study of safety as applied to my job. Everything that is done or said is tied to this objective either directly or indirectly.

Focus on the Accident

We establish the factors in an accident through the domino illustration given by Heinrich in *Industrial Accident Prevention*. The first and most important concept of accident prevention is this: accidents do *not* just happen, they are caused. Until this fact is established and accepted, any further training is on insecure ground.

The next important principle we wanted to establish is how to handle an accident. We did this by citing an accident that would be understood by the trainees with a minimum of explanation. This gives the trainee a pattern to go by when he is working on his own.

Let us take a look at a recent accident and see how one supervisor investigates accidents in his department. John Smith, 28, married, two children, had been working on the same job three years as section man in the card room. He was a frame fixer. He had been given the safety rules for his job and had a good record. John was a very capable fixer and was always on the alert to keep his job ahead of him. He detected a very unusual sound coming from Number 12 slubber about 30 minutes after change time. John listened for a few minutes, decided that the noise was made by improperly meshed gears in the back of the slubber.

So John stopped the slubber, moved three drawing cans and started to make the necessary adjustment. The tender, seeing a slack end, wound the end tight and started the slubber. John let out a yell, but it was too late. His left index finger was caught and pinched. A blood blister appeared immediately, but no other damage was done.

The Investigation

Have you ever had a similar accident in your department? Here we have a man who was doing a good job of machine maintenance, who had been told to work safely, but got a finger caught and pinched. Let's see what the foreman did and how he handled the investigation.

John reported the accident to his foreman, Joe Owens, and got first aid. Joe waited until John's finger was treated and most of the pain was gone before he asked about the accident. John told his story all the way to his mashed finger, all except the slack end.

The foreman asked John if he had flagged the frame. John said that he had not. He asked him if he had told the frame tender that he was going to work on the frame, and he said that he hadn't, that it would have taken only a few seconds to make the adjustment, and anyway he had done many similar short jobs before without getting hurt. The foreman asked John if there had been any witnesses. There were none except the frame tender.

John's face lit up and he asked, "Who is the new man on that set?" Joe replied that he was Clyde Brown and that he came well recommended.

The foreman told John that he would talk to the new man and see if something could be done to prevent a similar occurrence. Joe walked to the scene of the accident and when Clyde looked up, Joe gave him a smile of recognition and asked him how he was getting along.

Clyde replied that he wasn't so sure, that he had started a frame up while the fixer was working on it. Joe sensed the tenseness of the other man and said not to worry too much about that, but that he would like to know what had happened.

Clyde said, "I was busy creeling slubber Number 10 over there and had my back turned. I had only two more cans to set in when I heard this slubber stop, or at least I thought it was this one. I finished my creeling and stepped over here. I saw a slack end and didn't see anyone around. I had the idea that someone stopped the frame and kept going. I checked the end, took up the slack and started the frame, but just as the belt took hold I heard a yell, and stopped the frame in a hurry."

When Clyde had finished, the foreman shook his head in agreement and said that the fixer slipped up to some extent by not flagging the frame or telling Clyde that he was going to work on the frame. The foreman felt that he had the whole story. He decided that he would list the details so that he could question them more easily. He listed these details:

(a) The fixer was above average in efficiency.
(b) He frequently made minor adjustments without flagging the machines.
(c) This was the first time that he had had a frame started up while he was working on it.
(d) Old operators knew his habits and watched out for him.
(e) The fixer didn't know that there was a slack end on the frame.
(f) The fixer didn't know that there was a new tender on this set of frames.
(g) The new tender didn't know that the fixer was working on the frame.
(h) The frame was started up while the fixer was working.
(i) The injury was minor but could have been serious.

Joe completed the list of details and then began to question them.

"How did the accident happen?" The operator started a frame while the fixer was working on it.

"What was the cause?" The fixer failed to flag the frame or to tell the operator.

"Was it avoidable?" Apparently it was. The fixer could have told the operator, flagged the frame, or thrown the belt off the drive pulley.

The foreman felt that he was ready to follow through on this accident, so he called John Smith and they went to the office. Joe reviewed the entire accident with John and asked him if he had any suggestions. John replied that he hadn't but that he was ready to listen to any that were made, that he was beginning to realize how near he came to losing a finger or even a hand.

Joe suggested the possibility of a safety lock.

"Safety lock, did you say?"

"That's right," replied Joe, "I think that we can get some to go on our frames that have belt drive."

Turning to John, Joe said, "How can we prevent having more of your fingers mashed?"

Joe grinned and replied, "I can assure you that from now on I will either tell the operator, flag the frame, throw the belt off, or stop the motor before I attempt to make any adjustments, no matter how small they are. I felt that it just couldn't happen to me. Not only am I going to obey the safety rules myself, but I am going to try to get others to obey them, too."

"I am glad to hear you say that, John. I have had a feeling all along that you were taking chances, but I hadn't found anything definite enough to make an issue of. Now you have said for me the things that I wanted to say."

Investigating Accidents

Using this accident as a background, the group worked out a four-step method to use in investigating accidents. Each man was given a card listing these four steps: (1) Get the facts. (2) Question all details. (3) Check to avoid recurrence. (4) Follow through.

This four-step method is used in the succeeding sessions to review accidents that they have handled in the department. This also helps to develop a skill in investigating accidents.

Basic Accident Causes

Session Two is a further look at the *accident.* Not only is it necessary to be familiar with and be able to analyze an accident, but it is necessary that the basic causes of accidents be understood. We develop this session around the basic accident causes, both personal faults and mechanical and material faults. These are the 14 items as developed by Heinrich. They are developed with cases and points so as to give them strong associations.

By now the trainee has been effectively reminded that accidents don't just happen, they are *caused;* he is able to associate specific faults contributing to the accident; he has a technique for investigating the accident; and has a growing enthusiasm for accident prevention.

During succeeding sessions the main consideration is to add to the trainee's insight and know-how. His main concerns are: things that he can do, and learning basic reasons why people behave as they do. He is in a position of leadership and it is up to him to assume leadership. This can best be done by learning to read or interpret the behavior of the people he supervises in order to "nip as many accidents in the bud" as he can, in short, to practice accident prevention.

The Supervisor

Session Three turns the spotlight on the supervisor. He talks and thinks about things that he can do to prevent accidents. We are indebted to Glenn Gardiner, editor of *Management Information,* for some of the material used in this session. In preventing accidents, the supervisor takes the following steps: (1) Sets a good safety example. (2) Instructs each worker thoroughly in the safety precautions of his job. (3) Keeps all safety devices in proper use. (4) Follows up safety instructions constantly.

It is surprising how willingly the supervisor accepts these four steps as a necessary part of his responsibility, even though he may not have accepted them at the beginning of the session.

Emotional Immaturity

Session Four centers around emotional maturity and accident proneness. During the first three sessions we have established the premise that there are mental and emotional causes connected with most accidents. If this is true, what are some of the causes? One group of characteristics we call emotional immaturity. From this point we put some characteristics of the immature child and the immature adult on the board and link up the carryover. Some of the characteristics are present in every person to some degree. It is the excessive person that needs to be counseled and guided away from trouble.

In the case of accident proneness we also define this person within certain limits, and look at some of the reasons why he continues to have accidents. The distinction is made between a person that is accident-prone and one that is an accident repeater.

Mental Health

The subject of Session Five is: "Influence of Mental Health on Accidents." This session starts with a group definition of mental health. It is necessary to spend enough time with this definition to make sure that all group members have the meaning well in mind. We are very careful to make this point: It is not our purpose or intention to enter into a discussion of insanity. That is outside our field of knowledge, and it would have to be dealt with by professionally trained people.

A great deal of our material for this session was gleaned from an article appearing in *National Safety News,* February 1953, by Dr. Gerald Gordon, psychiatrist for the Du Pont Company, with the theme we use: "Employees allowed to shirk responsibility become mentally sick."

We develop some of the characteristics of mental illness and study statistics showing that people who get in trouble off the job are likely to be the same people who get into trouble on the job. The second portion of the session is used to develop some suggestions that will promote good mental health.

There is no final examination at the conclusion of the sessions; however, the last 15 or 20 minutes of the fifth session are used to summarize the impressions of the group. During the last few minutes the instructor is able to tell how well he has sold accident prevention to the group.

Benefits of Training

We have benefited by our safety training in the following ways:

1. Accidents have been materially reduced.
2. We know that a majority of accidents are caused by mental or emotional disturbances.
3. We have learned that the correction of attitudes helps to prevent accidents.
4. Supervisors are now assuming more responsibility for accident prevention.
5. Supervisors have developed a better insight and understanding of worker behavior.
6. Supervisors are better able to spot accidents "in the making."
7. Supervisors are giving more time to safety instructions.

Summary

1. We saw a need for formal, organized, safety training some years ago.
2. We decided that if we were to improve our safety performance we would have to put more emphasis on accident prevention.
3. There are two areas of understanding: the accidental occurrence and the mental and emotional make-up of mankind.
4. Safety problems can be solved through study and research; therefore, safety training must remain fluid. Fundamentals may remain the same, but methods of approach will continue to change.

Testing Company Announces Textile Course

The United States Testing Co. announces the 19th Annual Refresher Course in Textiles and Testing Techniques (s-275) which will be conducted during the first half of the Teachers College Summer Session, Columbia University, July 9-27. The course will be held at the main laboratories of United States Testing Co. in Hoboken, N. J. This marks the seventh year Teachers College has accredited the course for three points credit toward a degree.

The comprehensive three-week course is open to those who have had some elementary textile training. Through lectures, demonstrations and elective practice sessions, students will cover all phases of analyses on textiles and related merchandise, identification of fibers, chemistry, detergency and research. Special emphasis will be given to new fibers and fabrics. Each student receives an extensive collection of reference material, consisting of fibers, yarns, swatches and literature. Classes will be in session from 9:00 a.m. to 4:00 p.m. from July 9 through July 27. In addition, three days, July 30-Aug. 1, are scheduled with special elective field trips for interested class members. For further information and application forms, write to: Ruth Holmes Little, director, consumer service group, United States Testing Company Inc., 1415 Park Avenue, Hoboken, N. J.

Opening, Picking, Carding & Spinning

THE MILL OF TODAY

By ROBERT Z. WALKER

Part 44—Fundamentals of Drafting (Section Two)

THE fundamentals of the drafting of fibers were partially covered in the last discussion. At that time the basic requirements for a successful long draft system were outlined; for our ultimate objective here is to survey both drafting action and drafting means so as to permit more precisement judgment in analyzing and selecting a drafting system for a given set of mill conditions and needs. The latter part of the previous discussion was confined to a brief but sufficient resume of some of the characteristics of fiber which affect drafting.

This discussion will deal with other factors which affect drafting. Now, however, we will not deal with the drafting action of a single fiber but with groups of fibers. A fiber will react to the attempted control of the drafting system in accordance with the characteristics of that fiber. Over and above this, groups of fibers will draft differently because of the way that they are handled, or because of the way they are grouped. Therefore, it can be seen that the evaluation of a drafting element cannot be accurate or well founded until the fiber is considered. This consideration must take into account the physical characteristics of the fiber and then the handling of a group of this type of fiber.

Parallelism—Since parallelism of the fibers is the first step necessary in the formation of a well drawn and even sliver, the action of the drawing frames should be given careful consideration. The operation of parallelizing the fibers requires easy action at first, when the degree of parallelization is the least, and a gradually increasing intensity of action as the maximum degree of parallelism is approached. For this reason the draft between the back and subsequent rollers should be slight, as any excess draft at this point will result in a disordered condition of the sliver which will cause excessively lumpy and uneven drawing.

The practice of gradually increasing the draft from the drawing frames onward is quite sound, as the degree of parallelism and fiber control is correspondingly improved. Careful investigation of the precise value of the parallelizing of the fiber, and the increased uniformity at every drafting point, may reveal the need for some modification of drafting roll settings or speeds. Uniformity in drafts, doublings, roller settings or speeds may be desirable, but the efficiency of the process as a whole is of greater importance than the adherance to a fixed set of conditions.

Uniformity—The constant manipulation of the fiber results in the creation of more or less variation in sliver and rovings. These variations take place in the short length of the strand, and are not to be confused with variations measured on a yard-to-yard basis. Ordinary testing methods such as are used for the determination of hank are not suitable for the detection of these linear irregularities. Testing for hank and linear irregularities are quite different, as material which may be entirely correct as regards the first standard will be entirely unsuitable when regarded from the latter. The determination of these linear irregularities is important and should be carried out in a systematic manner, using any of the modern electronic testers.

Effect of Twist—The conditions under which drafting action is exerted when the fibers are slightly bound together by twist are essentially different from those existing when it is exerted on an untwisted strand. The reduction in thickness which occurs as the strand progresses through the fly frames makes the insertion of twist essential so that the material can be handled in a satisfactory manner.

The two principal considerations in determining the amount of twist inserted in the roving are the successful winding on and off the bobbin and the amount which will give the best results in the subsequent drafting operation. The former consideration is generally the determining factor. Long fibers, because of their length, will be more effectively bound in the strand than the shorter ones. Finer fibers, due to their greater flexibility, will be bound together closer than the coarser ones. Cotton which is irregular in staple will require more twist than those with uniform characteristics.

The extra amount of twist which is required to secure satisfactory winding on and off the bobbin, over that required for efficient drafting, varies with the quality and weight of the strand of fibers. The amount will necessarily be considered in relation to such factors as break draft and the control immediately preceding the front line of drawing rollers in the next machine. It is a matter of greater importance in high drafting than in conventional drafting.

If the fiber strand which is to be drafted is irregular and uneven, more twist will be required than otherwise. However, the irregularity will be increased and the twist will be uneven in its distribution. The inner portions will become thinner and firmly twisted and will therefore cause increased resistance in the subsequent machine, accentuating the defects already existing. The tendency of the fibers to spread out when under the drafting rolls of the roving frame is also affected by the amount of twist in the roving. Therefore, it is necessary that the roving guides keep the two ends of roving as close together as possible without causing them to ride over each other, when two ends are doubled.

The tendency of the strand to stretch as a result of tension between the bite of the rolls and the top of the flyer is difficult to avoid and can be reduced by a careful adjustment of the tension, the twist, and the lay gears. By maintaining the flyers in proper condition, with special regard to their balance, the weight and shape of the presser, and the speed of the frame, will tend to reduce the stretching to a minimum. Mill tests confirm the theory that there is more or less irregularity introduced in the roving during the time it is passing from the nip of the front roll to the bobbin and that these irregularities can be controlled by adjusting the operating conditions on the fly frame to meet the requirements of the stock as to twist, tension and speed.

Double Roving—Using double roving can sometimes aid in reducing the degree of linear irregularity which exists in the average commercial yarn. The benefits of doubling are frequently over-emphasized, as the mere doubling will only lower the average of the degree of variation and will not eliminate it entirely. The degree of uniformity obtained by using double roving in place of single roving, after making allowance for the averaging effect of the doubling, will be directly related to the degree of uniformity in the separate strands, and the mere doubling of these strands, except by accident, will never entirely eliminate the irregularities. The uneven places, once being introduced after the drawing process, will in all probability continue in the work and will be found in the finished yarn.

Irregularity is generally produced either by tension or by inefficient drawing action. The irregularity produced by tension will affect the count, while that processed by drafting action may not, as it will occur at longer intervals and may be partially corrected at the subsequent drawing process.

The reduction of thin places in the roving is one of the most important steps in the production of even and strong yarn and is affected by the efficiency of the mill, together with the skill of its operating staff. The stretching and linear displacement of the fibers can come from obscure and remote causes and these causes are at times hard to locate with a certainty. There is a difference between drafting and stretching. Stretching causes a collective displacement of the fibers and results in a serious departure from the normal flow of fibers at the next drafting point. Drafting causes a regular and uniform diminution in size of the strand, each unit of length being reduced in a uniform and unvariable degree.

The probability of a thin place resulting from drafting action when two fine rovings are used in place of one coarser roving is much less, as the fibers in the former case are under better control at the critical stage of the drafting. With similar cotton, twist and other conditions being the same, the control of the fibers will be more efficient with the two finer rovings, since there will be two points of control and pressure instead of one. The front roller will also grip the fibers in a more satisfactory manner and the rolls can be set closer, thus giving better drawing conditions in every respect.

On the other hand, the advantages of the doubling will be nullified to a certain extent as the draft is increased, and a point will be reached where, from the consideration of cost or other factors, such as yarn quality, increase of draft becomes impractical or undesirable. The amount of draft which is desirable for use with any class of cotton is related to the weight of the material being drafted. The draft suitable for a two-hank roving can be exceeded with safety if five-hank is being made. The exact ratio of satisfactory draft between a fine and a coarse roving is difficult to indicate and is largely a matter for the practical spinner to investigate under actual manufacturing conditions. Drafting from double roving requires definite arrangements in certain details. The roving guide should be designed to assure the separate ends being kept close together in passing through the rolls so that they will emerge from the front roll as a single tape. If they are permitted to separate, the passage of the twist to the nip of the front roll is impeded and the liability to stretch and break is greatly increased. The skewers should all be adjusted to the same degree of friction on the point and the drags of the rovings over the guide rods should be uniform.

Setting of Drafting Rolls—The setting of the ordinary type of drawing role is usually regarded as the distance between the nip of two successive pairs, the nip of the pairs being considered the point of contact. This definition is not strictly true, as the character of the rolls, surface, the amount of the pressure and the extent of the fluting in the roll, cause the zone of control to extend appreciably beyond the point of contact. This can readily be demonstrated by inserting a carbon paper between the rolls, thereby getting an exact diagram of the contact surface.

The breadth of this contact surface is a matter for consideration, since any increase of the contact surface, with the same pressure, will increase the efficiency of the fiber control and thus establish better drafting conditions. The surface character of the rolls materially affects the setting distance. For instance, the substitution of a bare metal roll for a leather-covered roll will require a closer setting as the breadth of the contact surface in the latter case will be appreciably lessened, with the resulting loss in effectiveness of the fiber control.

The setting distances between drafting points in various machines is a matter of great importance, for upon the setting depends the regularity of the drafting. This distance is affected by the staple length, the irregularity of the staple, fiber thickness, weight of the material being drafted, amount of draft, effect of twist on the material, speed of the drawing rolls, tension on the sliver at the front of the frame, and the condition of the drawing rolls.

Staple length—There is a relation between the staple length of the cotton and the roll setting but this relation is not as definite as has been generally thought. The staple length indicates the length factor only but gives no information as to the variation in length, the natural twist, or the degree of variation. A direct relation of staple length to roll setting is therefore impossible.

When drawing rolls are regarded as definitely weighted it is usual to set them to a distance somewhat outside the staple length, this distance varying at different stages of the drafting with the thickness of the strand. In the spinning frame this distance will slightly exceed the staple length. However, it is positive that there will be some fibers which are longer than the average, thus exceeding the setting distance. If these longer fibers are few in number the drafting will not be adversely affected nor will there be an excess of broken fibers, for a few longer fibers will be allowed to slip through the nip of the middle roll.

As the fibers are passing from one line of rolls to the next the tension on the individual fibers is more or less relaxed, due to the springy nature of the cotton, and as the fiber is gripped by the succeeding line some straightening occurs. It is also quite probable that a definite pull on any fiber is not established until a short length of any particular fiber has been passed between the nip of the rolls, as the grip of the rolls on a mass of fibers is a general one. The instant when the effective drawing control is established on any fiber it is effected by the movement and character of the fibers with which it is associated. In actual practice it is certain that in most cases an appreciable percentage of the fibers, including those longer than the roll setting, will pass through the drawing rolls satisfactorily. Those fibers which are of normal length will pass through in a proper manner and will assist in controlling and carrying forward the shorter fibers. The long fibers will slip through, as previously explained, if not excessive in number and if the rolls are not too heavily weighted. The troublesome element in high drafting is the short fibers, as most of them are released from the control of the second line of rolls before they are controlled by the front line. The erratic movement of these short fibers, inadequately controlled, results in their irregular position and distribution and is the result of several disturbing influences. The control of these fibers is the ultimate object in the development of high drafting.

Some of the longer fibers, mixed with the shorter ones, are drawn forward under tension at the higher speed of the front roll, while others are moving forward under little tension at middle roll speed. As a result of these conditions the short fibers are displaced, some being forced to the outside of the strand, making fuzzy and uneven yarn, while others are carried forward in bunches, causing lumps in the yarn.

Under definitely weighted rolls the setting distance must be such that the number of fibers extended in tension between two successive pairs of drawing rolls shall in no case be sufficient to interfere with drafting. The effect of this short fiber, with regard to fiber loss in drafting, is quite appreciable. This loss is evidenced by the dirtier condition of the roll beams and adjacent parts of the machine, and by the unsatisfactory condition of the yarn.

With the lower grades of cotton, due to the greater percentage of the shorter staple, lower drafts should be used, as the reduced draft and better control will result in reduced irregularity. Roller setting, apart from the influence of varying degrees of staple irregularity, closely follows staple length and will increase as the staple length increases. There is some difference in the efficiency of fiber control with varying staple lengths. Although the proportion of the various classes of fibers and the degree of variation may remain the same, the efficiently controlled portion of a longer cotton will draw more satisfactorily than a shorter cotton. It will more efficiently control the erratic movement of the very short fibers.

When combed cotton is drafted the conditions which affect the roll settings differ considerably from those existing when drafting carded cotton, as the greater part of the shorter cotton is effectively removed from the stock being drafted.

Amount of Draft—Roller setting is related to the amount of draft with regard to the disturbance set up among the fibers. A high draft will cause a greater disturbance among the fibers than a low draft, owing to the higher speed at which the fibers are drawn from the mass of fibers and also on account of the fact that the fibers are under the disturbing influence of drafting for a longer period. The front rolls, having fewer fibers to draw for the finer count with the same roving may be set closer.

Speed of Drafting—Generally speaking, yarn produced at lower speeds will be smoother and more even. In this case the improvement arises from reduced fiber friction which increases the effect of the control.

Condition of Covered Rollers—Covered rolls should be kept in good condition, especially if a close setting is to be maintained. The gradual channeling of the front top roll reduces the drawing power and if the wear is excessive the grip on the fiber is indefinite and faulty yarn will be made. The amount of wear which may occur before unsatisfactory drafting takes place is related to the thickness of the covering material and the setting distance. Excessive channeling of the front top roll can be caused by improper setting of the traverse motion, and every precaution should be taken to maintain the proper traverse and thus prolong the useful life of the rolls.

Tension in Front of Delivery Roller—Front tension will have some effect on roll setting in the spinning frame, for if it is indefinite or inconsiderable wider settings may be needed. This factor varies greatly in the ring spinning frame, the changes arising from the changes in the diameter of the bobbin and the extent of the ballooning. The difference in tension occurring between the lowest winding on point at the beginning of a set of bobbins and the highest point at the end is considerable. The tension in ring spinning is also related in some measure to the strength of the yarn as determining traveller tension. Several methods have been devised which tend to reduce the variation in tension, the principal being the use of the traversing thread board, which permits the use of a heavier traveller and thus makes the ballooning less and causes the maximum and minimum tensions to approach a common average. The other is the utilization of the node ring principle, as exemplified in the Saco-Lowell Gwaltney frame.

Jet Yarn Spinning Process Being Investigated

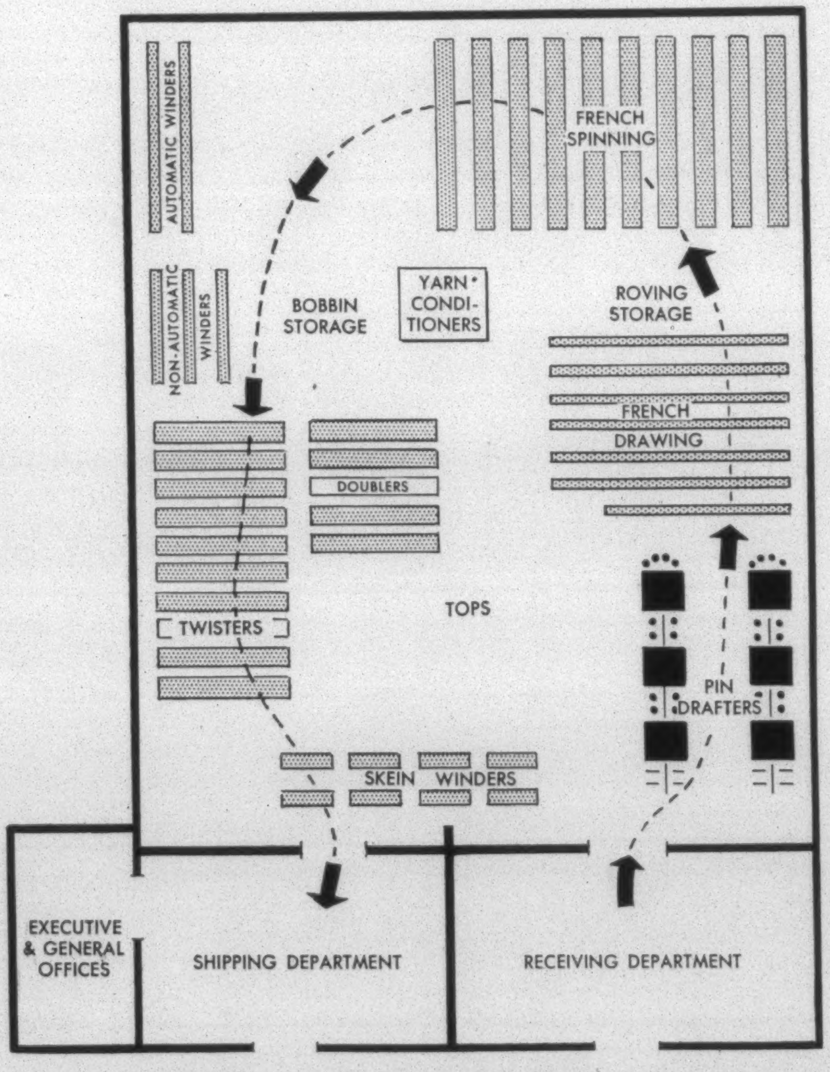
A new process of jet yarn spinning has been announced by the Southern Research Institute, Birmingham, Ala. The new method for spinning thread from cotton and other fibers was developed by Sabert Oglesby Jr., head of Southern Research's special engineering projects, and Albert L. Thomas Jr., head of the institute's instrument-development section. In the new system, fibers are separated by a simple carding wheeling, gently jet-propelled into a cone, charged electro-statically and drawn into a continuous thread of desired size. The system is designed to eliminate some of the worst bottlenecks in yarn making. Success of the experimental work has encouraged the two scientists to begin full-scale investigations, looking toward industrial use.

Man-Made Fiber Yarn Trade Code To Be Studied

The Association of Yarn Distributors has appointed a committee to investigate the possibility of co-ordinating existing trade practices in the man-made fiber yarns industry, according to Frank E. Slack, A.Y.D. secretary. At a recent New York meeting, Mr. Slack said, it was decided to determine whether existing trade practices in man-made fiber yarns could conceivably be brought within the provisions of the Cotton Yarn Rules as now written. Discussion during the meeting indicated the need for similar provisions in fiber yarn sales contracts to clarify requirements for specifications, deliveries and terminal dates, and especially casualty and quality claims.

Pin Drafters Provide $75,000 In Floor Space Savings At Runnymede Worsted Yarn Plant

This progressive manufacturer of worsted yarns profits from modern equipment in its new South Carolina mill, as shown in this job report from the Warner & Swasey Co.



WITHIN the past year the Runnymede Corp. began operations at a new mill in Pickens, S. C., which in design and construction reaches unusually high modern standards as a place for the manufacture of novelty, boucle, knitting, and weaving yarns (*see* TEXTILE BULLETIN *April 1955*).

A multimillion dollar plant, it has 50,000 square feet of floor space and can be readily expanded for future requirements. Air conditioning units in the fluorescent lighted, windowless building keep employees comfortable, and stock properly conditioned. Floors are concrete and the pastel walls and ceilings create a cheerful, relaxing working atmosphere.

In planning the layout for the new plant Runnymede officials, however, early emphasized the importance, from a cost standpoint, of installing equipment which would not only produce most efficiently but which was capable of reducing overhead in countless other ways. Warner & Swasey pin drafters were selected.

For example, this company know that pin drafters require about half as much floor space as the conventional equipment they had been using. This, alone, represented a saving of about $75,000. The training of personnel to operate pin drafters was, they realized, a simple matter so these machines could be put into production immediately and the quality of their product could be maintained with a minimum of supervision.

As soon as Runnymede's three operations of pin drafters began processing wool tops still more savings became quickly apparent. Labor requirements were reduced 50 per cent. General maintenance costs dropped. There was less creeling behind the reducer. Waste was cut 3 to 1.

A most important consideration to Runnymede, or any other yarn mill, is the ability to diversify production methods for the various counts of yarns that are continually being processed. The adaptability of Warner & Swasey pin drafters for quick changeovers has proved of tremendous benefit, and while operating only two shifts a weekly production rate of 20,000 pounds of wool yarns has been easily maintained.

The combination of a modern mill, modern equipment, and the good employee relations which result, has enabled the Runnymede Corp. to improve its quality, to increase its production, and to cut operating costs.

Warp Preparation & Weaving

A Study In Loom Fixing

By FRANK D. HERRING – Part Five

A big part of the loom fixer's work is routine—doing the same things over and over from day to day. This article does not deal with that part of the loom fixer's work, but will cover the unusual, or most difficult jobs he is called upon to do. The jobs that are most difficult for him to determine the cause and the ones requiring the most skill to fix. This should help the loom fixer to quickly and easily locate the basic causes for the trouble and to fix the loom correctly and efficiently without confusion and guesswork. The annual benefits to the weaving mills would be tremendous if guesswork loom fixing could be eliminated. Of course, it will never be completely eliminated but it can be greatly reduced by close observations and study.

For every job or trouble with the loom that the loom fixer is called upon to do, there are visible or detectable symptoms pointing directly to the basic causes for the troubles, and with some imagination, forethought, observation and study, the fixer can learn to readily detect most of the causes for the troubles which will enable him to do the job quickly and correctly and stay ahead of his job. The loom fixers who stay behind on their jobs are the ones who are not quite sure of themselves. The loom fixer usually can readily detect what the loom is doing or failing to do as soon as he approaches it, but determining the cause of the trouble is not always easy, unless he knows what and where to check. Very often a number of parts or motions failing to function properly can produce the same net result. In this article, the trouble will be given and also the things to check which could contribute or be responsible along with the reasons why.

Filling Bobbins Running Empty—When the fixer is called to work on a loom for running the filling bobbin empty, check the following things in the order named to determine the cause:

Bobbin in shuttle
Shipper lock
Filling cam follower dog
Timing of filling cam
Filling feeler
Filling feeler connecting parts
Battery transfer mechanism
Bobbin support
Shuttle boxing

The loom fixer should always check the shuttle and the reed when he is called to work on a loom to determine if the shuttle and component parts are in good condition and the reed tight in position and free of protruding dents. It requires only a few seconds time to do this checking and it will prove to be very helpful to the fixer and the weaver in preventing loom stoppage and second-grade cloth.

Before the filling feeler was invented and put in use on the automatic bobbin changing loom it was impossible to weave first-quality cloth as we know it now because the bobbin transfer mechanism was set in motion by the action of the filling fork and the filling fork would not make contact for transfer action until all of the yarn was run off of the bobbin. So, the shuttle was compelled to make one or more complete or partly complete passages across the lay with empty bobbin laying no filling yarn and the result was mispicks in the cloth. When using filling feelers, the filling fork is usually disconnected from the transfer mechanism, and the not only functions as a means of stopping the loom off when the filling bobbin runs empty, or the filling breaks. The purpose of the filling feeler is to cause the bobbin in the shuttle to be ejected from the shuttle before all of the yarn is depleted from the bobbin and replace it with a bobbin filled with yarn.

In order to get satisfactory results when using filling feelers it is necessary to have a small bunch of yarn put on the filling bobbin near the butt end, as shown in Fig. A. This is done by means of an attachment on the spinning frame known as the bunch builder, or it can be done by manipulating the traverse on the spinning frame up and down with the foot.

The amount of yarn on the bunch should be determined by the width of the cloth being woven. The yardage of yarn on the bunch should be sufficient to supply the shuttle on at least four trips across the lay. Any yarn on the bunch in excess of this amount will be waste, and that can amount to quite an item in dollars wasted on several hundred looms. The filling feeler plunger shown in Fig. A contacts the yarn on bobbin on every rotation of the lay as it approaches from center position, and when all yarn is depleted from the bobbin except the bunch, the plunger will contact the bobbin. The smooth surface of the bobbin allows the plunger to trip or slide and this movement of the plunger sets in motion the contact mechanism between the feeler and transfer mechanism which causes the transfer of the full bobbin of yarn into the shuttle. There are several different types of filling feelers in use on automatic looms but they all have one thing in common—their actions for causing transfer of the bobbin are brought about by contact of the plunger with the smooth surface of the bobbin above the bunch as indicated in Fig. A.

Bobbins in Shuttle—The bobbin in shuttle should be rigidly tight and in perfect alignment. The filling feeler plunger should contact the bobbin in shuttle at or near the center of the round surface of the bobbin as indicated in Fig. B. If the bobbin is loose, it will move up or down on contact with the plunger and this will prevent or retard the free movement or sliding action of the plunger on the bobbin and this will prevent contact for transfer action, and the bobbin in shuttle will be run empty, and the loom will be stopped off and require the weaver's attention. When the filler plunger contacts the bobbin too high or too

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low, as shown in Fig. C, it will have a tendency to wedge, or bind and prevent tripping or sliding action.

The Shipper Lock—Before working on the filling feeler, the loom fixer should always examine the shipper lock to determine if it is securely tight. The filling feeler is mounted on the shipper lock and constant usage, strain and vibration will sometimes cause it to work loose, and this will throw the filling feeler out of position, causing the feeler plunger to strike the front box plate or the shuttle and prevent transfer action and thereby cause the bobbin to be run empty and stop the loom.

Filling Cam Follower Dog—The loom fixer should check the filling cam follower dog to determine if it is adjusted properly for its full backward stroke. The filling cam follower is composed of three pieces: cam follower end, cam follower hub and cam follower dog. The cam follower dog is the top end of the cam follower assembly.

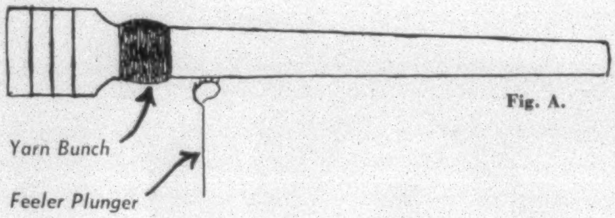

Fig. A.

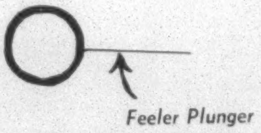

Fig. B.

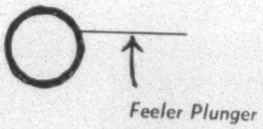

Fig. C.

One of the connecting parts between the filling feeler and the bobbin transfer assembly is mounted on the cam follower dog and the backward stroke of the dog controls the battery transfer mechanism, raises the transfer parts into position for transfer of bobbin into the shuttle. If the backward stroke on the dog is too short, the transfer parts will not be raised into the proper position to make contact for transfer, and false attempts for transfer will be the result. All of the yarn will be depleted from the bobbin in the shuttle and the loom will stop off. (Loom fixers usually refer to false transfer attempts as false changes. False changes are the direct cause of many other troubles also; they will be covered later).

Timing of Filling Cam—The filling motion cam should never be set or timed before setting the stroke on cam follower dog, because the stroke on the dog is a basic setting, and timing the filling cam is an optional setting, dependent on the position of the dog.

The Filling Feeler—Put the shuttle all the way up in shuttle box on shipper handle end with filling bobbin in it, containing only the bunch of yarn. Position the filling feeler so that the plunger will center the slot in the shuttle and contact the bobbin about three-eights to one-half of an inch from the bunch of yarn, as shown in Fig. A. Turn crankshaft to place the lay on exact front center position; this will put the plunger in tripped position and move the feeler cap backward or forward to a point where there will be about one-eighth of an inch play in plunger, then tighten the cap securely.

Filling Feeler Connecting Parts—After the filling feeler has been checked and adjusted, leave the empty filling bobbin in the shuttle and turn the crank slowly to front center position, causing the feeler plunger to trip or slide on the bobbin in the shuttle. Watch closely the connecting parts between filling feeler and cam follower dog to see if they function properly to make contact, which puts the transfer mechanism in motion or position for the transfer of the bobbin from the battery into the shuttle.

Battery Transfer Mechanism—Turn the crankshaft one complete revolution, placing the shuttle all the way up in the shuttle box in battery end of loom. This should cause the filling feeler plunger to trip or slide on the bobbin in shuttle and move the feeler connecting parts into contact position and raise the shuttle feeler and other battery transfer parts into position, indicating transfer; then check all the battery parts to determine if they are in position to make contact and proper transfer. If these parts are not in position for contact and transfer, false changes will be the result, and all the yarn will be depleted from the bobbin in shuttle and the loom will be stopped.

At this point, the loom fixer should check the thread cutter blades which project through the slots in the front box plate and the shuttle because if these blades are too high or too low, they will strike the front wall of the shuttle and this will depress the latch finger and prevent its making proper contact with the bunter and this will result in false changes, empty bobbins and loom stoppage.

Bobbin Support—There are several different types of bobbin supports, but they all have one thing in common—they are supported and held in position by spring pressure. This constant spring pressure, coupled with vibrations of the loom, will cause them to rise up to a point where they will press against the bobbin in the battery and prevent the battery from turning and placing the bobbin in proper position for transfer; and in this event, the attempt for transfer will be made without results. The yarn will be depleted from bobbin in shuttle and the loom will be stopped off. Some types of bobbin supports will become bent out of position, and in this event, the same thing mentioned above will be the result.

A majority of looms in use today are equipped with bobbin supports which are subject to the above-mentioned troubles, but all these troubles can be eliminated by using the latest types of supports made by the loom builders.

Shuttle Boxing—After checking and making the necessary adjustments on the filling feeler and battery transfer parts, the fixer should start the loom and check the boxing of the shuttle in both shuttle boxes. If the shuttle bounces, or fails to go all the way up in the shuttle box on the shipper end, the filling feeler plunger will contact the bunch of yarn on the bobbin instead of the smooth surface of the bobbin and this will prevent tripping of the plunger and all the yarn will be depleted from the bobbin, resulting in loom stoppage. If the shuttle bounces, or fails to go all the way up in shuttle box on the battery end, the outer end of the shuttle feeler will be depressed, along with the transfer contacting parts, preventing transfer of the bobbin, and it will be run empty of yarn and stop the loom.

A little study and thought given to the routine checking procedure given in this article should convince the loom

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fixer of the vital importance of routine checking which enables him to locate the trouble instead of hit or miss guesswork. Checking each item in the order named is vital because if the fixer fails to check just one item in the chain of possible causes, his work is very likely to be ineffective and intermittent failure to function properly will be the result, and intermittent failure is much more difficult for the fixer to locate.

Rewinding For Profits

By P. H. FARMER, Foster Machine Co., Westfield, Mass.

As might be expected, Mr. Farmer is ready to convince anyone that rewinding of filling yarns effects certain savings in the weaving mill. His discussion originated last year before a meeting of the Canadian Textile Society.

RE-WINDING or direct spinning of filling yarns—that is the question, but what is the answer? Since opinions are sharply divided on this controversial subject, and the advocates of either system advance so many plausible arguments in support of their contentions, we will base our conclusions on the industrial engineers' approach, and attempt to describe in detail the machines, technique and economics to appraise the merits and limitations of re-winding as opposed to the direct spinning of filling yarns.

Some of this material has been acquired through the cooperation of Barnes Textile Associates, Saco-Lowell Shops and progressive mills in New England and the South, and is based on actual mill studies observed on production installations.

Our object in this address is to provide the proof that two additional operations, coning and pirning of filling yarns, can be added to the normal processes involved in the making of cloth and result in the reduction of costs, simplification of technique, increase of output and the improvement of quality.

To illustrate our conclusion, we have chosen a complete breakdown of processes, machines and hourly labor costs on two constructions, one a 36-inch 48x48 2.85 yard sheeting, the other a 39-inch 80x80 4.00 yard print cloth. We have done this in order to cover the broadest scope of the carded industry.

Here is a summary of the way we did it, based on a production requirement of 417,120 yards per week of 120 hours for the 80 squares, and 273,480 yards of the 48s sheeting.

Incidentally, all wage rates used as examples would have to be transposed to the current rates in your own mills. Please note all cost elements have been extended on the basis of hours per loom 120-hour week, and rate per hour. We did this in order to have a common denominator for all elements that could be simply illustrated on one chart for each construction.

The card room operations, opening through roving, which are the same for both the direct and rewind systems, require 1,440 hours per 43,200 loom hours or four hours per loom 120-hour week.

Spinning costs using Saco-Lowell Duo-Roth frames for the direct system require 6.4 hours per loom 120-hour week. Using the Gwaltney large package frames for the rewind system, we find it requires only 4.5 hours per loom 120-hour week, a saving of 1.9 hours per week.

Using an automatic knot tying winder for warp on the direct system, and both warp and filling on the rewind system, we find we must add the difference of one half-hour per loom week for the rewind system; also, in pirning on our fully-automatic high-speed Model 66 pirn winder, we must add 20 minutes per loom week.

However, in weaving we are able to show the substantial saving of 2.33 hours for the rewind system over the direct, principally in battery hands, due to the fact that the bobbins delivered from the pirn winder are all uniform and contain substantially more yardage than those spun directly; also, because we are able to lay each quill butt first and parallel to one another by the filling box stacking attachment on our Model 66, thereby increasing the efficiency of battery hands from a norm of 700 to 800 pirns per hour to 1,000 pirns per hour.

In the cloth room, we find we can save with the rewind system 75 per cent on 80 squares and 50 per cent on the 48s sheeting of inspection time that is normally devoted to the direct system. This technique is now in effect in some of the progressive mills and is accomplished by the fact that in the rewinding system all slubs, gouts and thin places in the yarn are removed by slubbing on the winder, and much of the leaf and free nips will be removed by the high-speed pirn winder, thereby confining the defects to loom stop defects with the exception of mixed yarn, bars and barre which can be flagged at the shearer.

If we now have the weaver check off the loom stoppage defects on a condensed form printed on the back of the cut ticket, when he re-starts the loom, we will have achieved our inspection by the weaver. In the case where the number of defects checked on the back of the cut ticket exceeds our standard for first quality goods, we can re-inspect that cut of cloth, cut out, if possible, the defects, and make up short length first quality pieces. If, of course, the defects marked are less than our standard, we would pass this cut along automatically, without further inspection as first quality cloth. As a precaution, we would re-inspect a few cuts of the weaver's first quality goods just to keep him honest!

Totaling up our elements, we find we were able to save 3.74 hours per loom 120-hour week, $1,767.60 per week, .0064 dollars per yard, and .0182 dollars per pound, a

COST PER LOOM 120 HR./WEEK DIRECT AND REWIND

48 x 48 2.85 Yard Sheeting

DIRECT

Operation	Hrs. Per Loom 120 Hrs./Wk.	Rate	Cost $
Card Room	4.	1.21	4.84
Spinning	6.4	1.22	7.81
Winding	.50	1.21	.61
Pirning			
Warping	.67	1.21	.81
Slashing	.67	1.44	.96
Weaving	8.33	1.35	11.25
Cloth Room	2.	1.34	2.68
Total Hours	22.57		28.96
No. of Looms	360		$10,425.60
No. of Yards	273,480		$ 0.0381
Savings Per Yd.	.0064		
Savings Per Lbs.	$ .0182		
Savings Per Yr.	$91,915.20		

REWIND

Operation	Hrs. Per Loom 120 Hrs./Wk.	Rate	Cost
Card Room	4.	1.21	4.84
Spinning	4.5	1.22	5.49
Winding	1.	1.21	1.21
Pirning	.33	1.21	40
Warping	.67	1.21	.81
Slashing	.67	1.44	.96
Weaving	6.	1.35	8.10
Cloth Room	1.67	1.34	2.24
Total Hours	18.83		24.05
No. of Looms			$8,658.00
No. of Yards			$ 0.0317

CONING COST

	Warp	Filling
Yarn Count	12s	13.50
Type of Bobbin	11 x 2⅞	11 x 2⅞
Lbs. Per 100 Bobbins	87.50	87.50
Type of Machine	Auto. Winder	Auto. Winder
No. of Spd.	184	184
Average Yarn Speed	700	700
Break Backs Per Bobbin	¼	¼
Cone Size	6 x 8	6 x 8
Lbs. Per Cone	4	4
Bobbins Per Cone	4.6	4.6
Running Time Per Bobbin	12.60	14.18
Bobbins Placed Per Min. Per Operator	22	22
Spindles Per Operator	184	184
100% Lbs. Per Spd. Hr.	4.16	3.70
Std. Efficiency	60%	60%
Std. Lbs. Per Spd. Hr.	2.5	2.22
Lbs. Per Operator Per 120 Hr. Wk.	51,000	45,120
Labor	1	

PIRNING COST

Yarn Count	13.50
Lbs. Per Quill	.134
Size of Quill	8¾ x 1⅜
Lbs. Per Cone	4
Quills Per Cone	30
Yds. Per Quill	1485
Winding Time Per Quill	1.308
100% Lbs. Per Spd. Hr.	6.137
Std. Effic.	95%
Std. Lbs. Per Spd. Hr.	5.83
No. of Spds.	64
Supply Size	4 Lbs.
Tender Service Time Per Supply Pkg.	.60
No. of Supply Pkgs.	11,280
Lbs. Per Oper. Wk./120 Hrs.	45,120
Total Labor	1

WEAVING COMPARISON

	Direct	Rewind
No. of Looms	360	360
Looms	X2 Draper	X2 Draper
Width	40	40
Sley	48	48
Picks	48	48
Warp Yarn	12/1	12/1
Fill Yarn	13.50/1	13.50/1
Weight of Warp	.171	.171
Weight of Fill	.150	.150
Speed R.P.M.	200	200
Efficiency	95%	95%
Yds. Per 120 Hr. Week	273,480	273,480
Spindles Per Warp	5,520	5,040
Spindles Per Fill	5,712	4,560
Total Spindles	11,232	9,600
Net Work Factor	13%	10%
Labor		
Looms Per Weaver	72	72
Looms Per Fixer	100	120
Looms Per Battery Hand	45	120
Smash Hand	1	1
Quill Collector	1	.50
Quill Cleaner	1	.50
Cloth Doffer	1	1
Loom Cleaner	1	1
Loom Oiler	1	1
Sweeper	1	1
Utility	1	1
Total Weaver Rm. Labor	25	18
Cloth Room		
Second Hand	1	1
Shearer Machine	1	1
Folder	1	1
Inspectors	2	1
Press	1	1
Total Labor	6	5

80 x 80 4.00 Yd. Print Cloth

DIRECT

	Hrs. Per Loom 120 Hr./Wk.	Rate	Cost
Card Room	2.03	1.21	2.46
Spinning Cost	3.56	1.22	4.34
Coning Cost	.19	1.21	.23
Pirning			
Warp	.26	1.21	.31
Slashing	.26	1.44	.37
Weaving	4.45	1.35	6.01
Cloth Rm.	1.02	1.34	1.37
Total Hours	11.77		$15.37
No. of Looms	944		$14,244.96
No. of Yds.	417,120		$ .0342
Savings Per Yd.	$.0059		
Savings Per Lb.	.0236		
Savings Per Yr.	$127,972.00		

REWIND

	Hrs. Per Loom 120 Hr./Wk.	Rate	Cost
Card Room	2.03	1.21	2.46
Spinning Cost	2.54	1.22	3.10
Coning Cost	.38	1.21	.46
Pirning	.13	1.21	.16
Warp	.26	1.21	.31
Slashing	.26	1.44	.37
Weaving	3.56	1.35	4.81
Cloth Rm.	.63	1.34	.84
Total Hours	9.79		$12.51
No. of Looms	944		$11,809.44
No. of Yds.	417,120		.0283

CONING COST

	Warp	Filling
Yarn Count	31/1	41/1
Type of Bobbin	11.75 x 2/38	11.75 x 2⅜
Lbs. Per 100 Bobbins	62.50	62.50
Type of Machine	Foster M/202	Foster M/202
No. of Spds.	464	496
Aver. Yarn Speed	750	750
Break Backs Per Bobbin	¼	¼
Cone Size	6 x 8	6 x 8
Lbs. Per Cone	4 Lbs.	4 Lbs.
Bobbins Per Cone	6.4	6.4
Running Time Per Bobbin	21.7	28.7
Bobbins Placed Per Min. Per Operator	22	22
Spds. Per Operator	477.4	531
100% Lbs. Per Spd. Hr.	1.728	1.306
Std. Eff.	60%	60%
Std. Lbs. Per Spd. Hr.	1.037	.784
Lbs. Per Operator Per Wk. 120 Hrs.	57,740	46,700
Labor		
Tender	1	1

PIRNING COST

MACHINE	FOSTER M/66
Yarn Count	41/1
Lbs. Per Quill	.134
Size of Quill	8¾"
Lbs. Per Cone	4
Quills Per Cone	30
Yds. Per Quill	4614
Winding Time Per Quill	4.16
Lbs. Per Spd./Hr. 100% Std. Eff. 95%	1.93
Std. Lbs. Per Spd. Hr.	1.83
No. Spd. Required	213
Tender Service Time Per Supply Pkg.	.60
No. of Supply Pkg.	11,675
Lbs. Per Operator Per 120 Hr./Wk.	46,700
Labor	
Tender	1

WEAVING

	Direct	Rewind
No. of Looms	944	944
Type Loom	Draper X2	Draper X2
Width	44"	44"
Sley	80	80
Picks	80	80
Warp Yarn	31/1	31/1
Fill Yarn	41/1	41/1
Weight—Warp	.1202	.1202
Weight—Filling	.0982	.0982
Speed P.P.M.	190	190
Eff.	93%	93%
Yards Per Wk.	417,120	417,120
Spindle Per Warp	21,300	20,913
Spindles Per Fill	23,184	22,750
Total Spds.	44,484	43,663
Net Waste Factor	13%	10%
Labor		
Looms Per Weaver	120	120
Looms Per Fixer	120	137
Looms Per Battery Hand	137	237
Smash Hand	2	1
Quill Collector	2	1
Quill Cleaner	2	1
Cloth Doffer	1	1
Loom Cleaner	1	1
Loom Oiler	2	2
Sweeper	1	1
Utility	1	1
Total Labor	35	28
Cloth Room		
Second Hand	1	1
Shearer	1	1
Folder	1	1
Inspector	4	1
Press	1	1
Total	8	5

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our totals show 1.98 hours saved, $2,435.52 per week, .0059 dollars per yard, and .0236 dollars per pound, a total savings on both constructions of $219,887 per year.

In addition to the savings on hourly wages, there are other intangible savings that come from improved quality. An estimated two per cent increase of first quality goods, 30 per cent less pirn transfers, five per cent less loom stops, three per cent less waste, less loom repairs and broken pirns, fewer pirns, and the most important advantage of all, the establishment of a new quality standard which can be specifically labeled, "Made on the Re-wound System," the bench mark of a progressive mill's highest quality.

The mill that uses this label will command premium prices and customer preference for its goods, an enviable position.

Any management building a new mill today that did not take advantage of a rewind system would drastically reduce the company's efficiency, competitive position, and burden its future power to produce profits. However, that is only half the story. How about an existing mill that wishes to modernize? Is rewinding economical for it?

The answer to this question can be negative or positive according to what yardstick a mill uses for determining its significant saving on the 48s sheeting. On the 80 squares, expenditure of productive capital (i.e., its power to produce profits).

If a company restricts its management on capital expenditures to the yardstick of a five-year payback period, that is, if the number of years required for the earnings on the expenditure to pay back the investment cannot be more than five years, the answer to the above question would be a resounding "no," unless, of course, merchandizing can wring out from its customers substantial premium prices for higher quality goods; however, since textile manufacturers have little control over the selling price of their goods, this premium factor will have to remain as an intangible asset in our figuring.

In the more progressive companies, the measurement of the investment worth of its expenditure of productive capital for the rewinding system is by the yardstick, degree of necessity; that is, can the company expect to remain in business if the investment is not made. Progressive management realizes competition is a great creator of investment opportunities when textile manufacturers vie with one another to make facilities obsolete. Comparison of costs, earnings and facilities with those of rivals often suggests opportunities to place themselves in a more advantageous position in the market place even though it requires long-range capital plans.

Bleaching, Dyeing & Finishing

Are You Up-To-Date On Package Dyeing?

By A. P. ROY, Southern Sales Manager, Emkay Chemical Co., Charlotte, N. C.

THE science of package dyeing has made great progress in recent years, with the improvement applying to machines as well as methods. The Franklin machine which was developed by William Allen was one of the first package machines in this country.

There were beam dyeing machines, such as the Brantwood, in this country earlier than the Franklin machines, which were made of iron and used mostly for sulphur dyeing of filling yarns.

Around 1920 German package dyeing machines were introduced in this country. These were built by Thies and Obermaier. Several installations were made in the East and South. The dyeing was done on $\frac{5}{8}$-inch diameter perforated tubes. The Thies machines were introduced in this country at about the same time the Obermaier machines were installed in the early '20s. The two original installations of the Thies machines were at Piedmont Processing Co. in Belmont, N. C., and Florence Thread Co. in Riverside, N. J.

In 1920 a dyeing machine imported from England was installed at the Lola Mills in Stanley, N. C. This machine was intended to be used for dyeing of beams, which did not prove to be satisfactory. R. F. Craig, W. P. Hornbuckle and S. McCoy, who were connected with the Lola Mills, revamped this machine completely and added certain features. Satisfactory beam dyeing was then being carried out and patents were obtained. The firm of Craig and Hornbuckle was established and became the forerunner of the Gaston County Dyeing Machine Co.

By making additional changes on the beam dyeing machine, Gaston County was also successful in dyeing packages in this machine. Most of the installations were made with three, four and six kiers.

All machines were constructed from cast iron and the dye liquor flow in these machines was about $1\frac{1}{2}$ to two gallons per minute per lb. of yarn. Gaston County introduced perforated dye tubes with $1\frac{5}{8}$-inch diameter which proved to be quite an advantage over the $\frac{5}{8}$-inch diameter model.

In 1936 Gaston County built the first machines from stainless steel. The dye liquor flow in these machines was increased to about $2\frac{1}{2}$ to three gallons per minute per pound of yarn. Later on the dye liquor flow was increased to four to five gallons, which proved to be a decided advantage, especially in package dyeing.

Since a flow of four to five gallons proved to be too much for beam dyeing, the combination beam and package dyeing machines were equipped with means to control the flow. At Dan River Mills, Danville, Va., Gaston County made a very large installation of beam dyeing machinery. Mr. McMan, chief dyer at this point, invented and received a patent on an automatic dye liquor flow system, which is being used on all Dan River beam dyeing machines. Gaston County purchased the patent from Mr. McMan and is now sole owner.

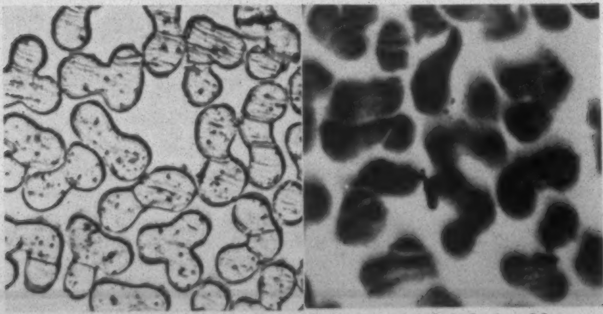
Smith, Drum & Co., which up to 1936 had only produced mainly skein dyeing machines, found that the trend was towards package dyeing and they entered the field of package and beam dyeing. In 1938 they made some of their first installations of package dyeing equipment. In 1941 they started building their first beam dyeing machines. The Smith-Drum combination beam and package dyeing machines are built with kiers in cloverleaf fashion in set-ups of one, two, three and four kiers.

In 1938 automatic control equipment for beam, as well as package dyeing machinery, was introduced by Gaston County Dyeing Machine Co. In recent years the value of these controls has become more and more appreciated. Today the machines are furnished with complete controls for every operation so that a machine operator can take care of a battery of machines instead of one or two machines as was the case in years prior to the development of automatic equipment. The control system is set up in panels which record thermometer and thermostatic controller for indirect steam valves. Charts give accurate records of temperature and timing each operation. Each chart is designed for only one batch or dye lot and provides a form on the reverse side for recording the formula and all details of the lot being dyed. Pressure gauges show exact pressure in the dye tank or kiers at all times. These features are extremely important especially where high temperature dyeings is in progress. In other words, the panel tells the dyer at a glance what is going on, and whether or not his formulation and procedures are being carried out as instructed.

This is important in precision work such as naphthol, developed vat, and synthetic high-temperature dyeing. The dyer's panel records, which are more or less integated with his formulas, will give the dyer established formulations, which are bound to check from batch to batch, at least, within reason of accepted matches or shades from lot to lot.

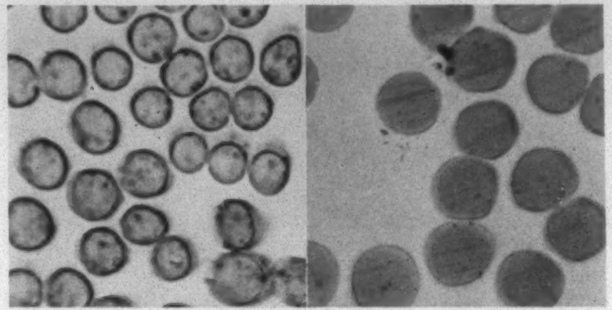
Package Dyeing of Synthetic Fibers

With the introduction of synthetic fibers during the past few years came a demand for dyeing machinery capable of withstanding much higher temperatures and pressures than those required for natural fibers.



Orlon acrylic fiber before *(left)* and after *(right)* dyeing blue at 250°F.; magnified 500 times.

The fundamental concept of high-temperature dyeing is based on the fact that the dyeing of vegetable, animal and synthetic fibers is accomplished by purely chemical reactions which, being reversible, create, after a certain period, a state of equilibrium. This state of equilibrium and the rate at which it is established are a function of the temperature. An elevation of the temperature above the usual dyeing temperature seemed indicated therefore not only for shortening the dyeing time, but primarily for the purpose of improving the uniformity of the results obtained.



Dacron polyester fiber before *(left)* and after *(right)* dyeing red at 250°F.; magnified 500 times.

On placing the fiber in the dyebath, swelling takes place, resulting in areas through which dye can diffuse. The rate of diffusion is much greater at high temperatures than at low temperatures and usually the advantages of a much higher rate of diffusion over balance the disadvantages of a somewhat faster exhaust rate. At times, however, it is advantageous to start dyeing at a low temperature in order to obtain a slow rate of exhaust and to complete the dyeing process at a high temperature in order to obtain the leveling effects of a high rate of diffusion.

Preparation of the Yarn for Package Dyeing

Pressure dyers of cotton yarn often declare that 90 per cent of their success in dyeing depends on proper preparation of the packages or beam to be dyed. There is abundant evidence to indicate that dyehouse production losses exceeding 50 per cent of potential production are due to faulty yarn preparation.

There are five measurements that have a decided bearing on good package dyeing: (1) Weight—the greater the weight the greater the production. (2) Dimension—this is dependent on the distance between the dye spindles. (3) Yarn count—harder yarns must be wound softer than soft yarn. (4) Angle of the wind—this can to some extent control the passage of the dye liquor through the yarn. It must be realized that the dye liquor should not go through holes in the package, but through the yarn itself. (5) Density—the density should be as even as possible.

Yarn resistance is correlated with rate of flow; naturally, more flow of liquor through the package means more even dyeing. Package equipment must be equipped with sufficient pump and motor capacity. From 3½ to five gallons of dye liquor per minute should pass or filter through the package to give satisfactory results.

Careful consideration in proper winding of the package is no doubt of primary importance, because the best conditions and technique in the dyeing itself will not compensate for a poorly wound package.

Among popular types of yarn dye packages or yarn holders are ⅝-inch perforated paper tubes, 1⅝-inch per-

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2. MORE ECONOMICAL. Because dye is forced into fabric under liquid pressure, considerable saving in chemicals is achieved. Entire range requires only two men to operate.
3. BETTER QUALITY DYEING. All formulas are measured volumetrically. Colors may be mixed regardless of exhaust rates or substantivity.
4. VERSATILITY. The BOND MACHINE can process various types of fabrics and all classes of dyes.
5. FLEXIBILITY. Short runs can be dyed and finished economically. Color changeovers can be quickly accomplished.
6. SAVES FLOOR SPACE. The BOND MACHINE requires only 500 square feet of floor space for a five unit range 50" width = 1/3 as much as comparable finishing machines.
7. LOW TENSION OPERATION.
8. LIQUID PRESSURE. Minimized mechanical pressure. Least distortion or damage to delicate fabrics. This process practically approaches theoretical flash point dyeing.
9. AUTOMATIC CONTROLS. Automatic Temperature and pressure controls help achieve uniform results in color and fastness.
10. STAINLESS STEEL CONSTRUCTION. Made of Type 316 stainless steel. Withstands corrosive chemicals and vapors with a minimum of maintenance.

THE TEXTILE SHOPS will be responsible for engineering, sales, and service of the BOND MACHINE. Your inquiries will be appreciated and given prompt attention without obligation.

INQUIRE FOR FURTHER DETAILS FROM

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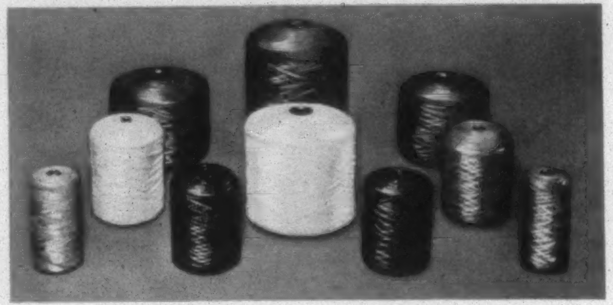
forated metal tubes, 1⅝-inch spiral springs, and 2⅛-inch Barber-Colman dye tubes.

Sometimes a knitted cotton cover is used on these tubes, especially the spring with a 1⅝-inch hole. In some cases the use of a rubber band on each end of the 1⅝-inch tube has replaced the use of the usual knitted cover. On all of the tubes the yarn traverse is approximately six inches and the over-all length of the tube approximately 6¾ inches, except Barber-Colman tubes, which are 3⅝ inches in length. The No. 102 Foster winder and the Universal Roto-Coner deliver superior and far more uniform winding than the older winding equipment. However, the No. 50 Universal is still one of the best winders for heavy yarns.



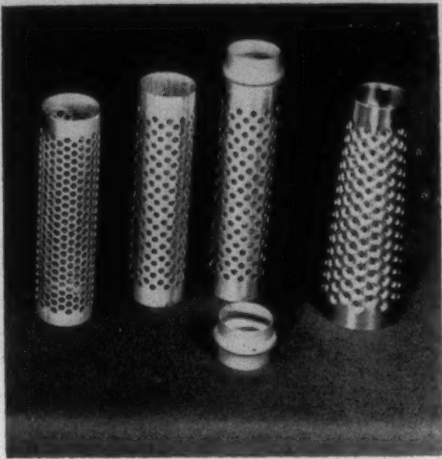
Various put-ups for pressure dyeing.

Important Facts on Pressure Dyeing

Pressure dyeing is successfully carried out on all types of spun yarns such as cotton, wool, rayon, silk, and synthetic yarns, as well as on raw stock or fiber stock. However, there are certain precautions that must be recognized before successful dyeing can be produced on any type of machine. In package dyeing we are using a short liquor ratio anywhere from 8 and 12 to 1, making a very concentrated dyebath. In this case every effort must be made to prevent the color from going in too rapidly and producing uneven dyeings. The proper selection of dyes plus compatible dyeing assistants is very essential.

To dye in a pressure type machine, the dye must be highly soluble to facilitate penetration. The use of a good dispersing and wetting out agent made from any one of the sodium lauryl sulfates, sodium alklayl sulfonates, or amide condensates will increase solubility and create better filtration of the dyes through the package. This statement may seem foolish, but it stands to reason that an undissolved dye particle could be more readily washed out of skein dyed yarn than if it were forced into the yarn by pressure. Many people claim that pressure dyed yarns are harsher than skein dyed yarns, but this can be overcome by using a blend of anionic substantive compounds for proper softness.. Cationic blends and amide derivative are also useful for this.

One should give serious consideration to the selection of the wetting agents. There are times when wetting agents and dispersing agents of certain dyes, especially on vats, work adversely to each other. Here the wetting agent may tend to coagulate or enlarge the particle size; this causes it to precipitate out during the pigmentation. This, of course, will result in an uneven dyeing especially if the dye is a fast exhausting type. The exhaustion from a short liquor is greatly accentuated due to the fact that a filtering action takes place as the dye liquor circulates through the package.



This is a new type of stainless steel tube now being manufactured by Tanner Machine Works of Gastonia, N. C. It can be obtained with either 324 convention perforations, or 528 perforations for increased flow of liquor and better penetration.

Therefore, it is essential to carefully select colors with the same rates of exhaustion, plus favorable dyeing assistants regardless of dye type.

To demonstrate the practicality and feasibility of precision dyeing on pressure package equipment, listed below is a formulation for a Royal Blue shade which checks with each successive dyeing. It is based on 500-pound machine capacity, liquor ratio 8 to 1. The 400 20-ounce mercerized cotton yarn (40s two-ply) packages are wound on 1⅝-inch stainless steel tubes.

Boil out packages for 20 minutes with
    56% acetic acid .... 1.0 oz./gal.
    Emkapon T.S. .... .4 oz./gal.
Drain and rinse; refill at 195°F., add
    Emkatex M-25 (retarder) .... 0.09 oz./gal.
    Epsom salt .... 0.03 oz./gal.
    Emkapon T.S. .... .4 oz./gal.
Circulate 5 minutes, add all outside in
    Indanthrene Blue G.C.D. Index No. 1113 10%
    Indanthrene Bril. Violet R.R. Pst. Index No. 1104 1.5%
Circulate reversing 15 minutes, add
    Caustic soda .... 1.0 oz./gal.
    Sodium nitrite .... 0.5 oz./gal.
Circulate 5 to 10 minutes, add slowly
    Sodium hydrosulfate .... 0.5 oz./gal.
Circulate 30 minutes, add
    Sodium hydrosulfate .... 0.25 oz./gal.
Circulate 15 minutes; run cold water and rinse overflowing without recirculation until pH drops to 9; add
    130 volume hydrogen peroxide ...... 0.1 oz./gal.
    56% acetic acid .... 0.2 oz./gal.
Circulate and heat to 140°F. and run 20 minutes at 195° F.; rinse overflowing. Finish as desired for soft hand.

Extracting and Dyeing of Package Dyed Yarns

There are three general types of extractors used on packaged yarn—the centrifugal extractor, the vacuum extractor, and the pressure extractor. The centrifugal type will not be discussed here but it is sufficient to say that the packages of yarn are put into a whizzer and the water is removed by centrifugal force.

There are two types of vacuum extracting, or rather two different means used to create the vacuum—steam ejector and vacuum pump. The steam ejector is less expensive to purchase but more expensive to operate, whereas the pump type is just the opposite. Both do satisfactory work, especially on beams, since there is a greater mass of yarn upon which to act and it can create better vacuum.

The pressure type extractor is used primarily on package because a vacuum cannot be created inside a package as well as in a beam since the package yarn puts up comparatively little resistance, and therefore the air will break through the yarn much quicker.

The pressure type extractor uses a centrifugal or positive type blower to create pressure and flow of air. The general rule is low pressure, high volume for packages, and high pressure with as much volume as possible for beams. The extracted yarn is then taken from the extracting kier and placed on a port dryer or hurricane-type oven, with the same rule cited in the previous sentence applying.

The tray dryer or oven dryer is commonly used in small dyehouses and requires up to 12 to 16 hours' drying, while the port dryer greatly reduces this time cycle. From three to ten hours is the time required for drying on the port dryer, the total time depending upon the density of the packages. This condition was mentioned previously in yarn preparation for dyeing which holds true for drying.

A number of direct colors have a tendency to migrate on the package when extracted with hot air. This can be eliminated to a certain extent with dye fixing agent providing the cost of an extra operation is not prohibitative due to the low cost factor. It then becomes necessary to use centrifugal extraction and the tray or oven dryer for these shades to keep migration at a minimum.

In the past few years Smith-Drum has developed and introduced the two-way cabinet type oven dryers with electric air filters. This eliminates the waste of yarn near the tube on bleached and pastel shades when dried on port dryers. Without the electrical air filters on oven and tray dryers light pastel shades and bleaches took on muggy cast on the inside as well as on the outside of the packages.

Although the above methods of extracting and drying are comparatively new when taking into account the many hundreds of years during which textile materials had to be dried, there is still a newer system on the market today.

This new system incorporates a closed system drying unit. This unit is a combination extractor-dryer. Depending on the quantities of yarn and the type yarn being dryed, this particular dryer will dry 400 and 800-pound batches of yarn in less than an hour to an hour. Of course, there are many variables which tend to change the drying time such as the type tube on which the yarn is wound, the density of the package, the type yarn either knitting, weaving or thread yarns or natural or synthetic yarns. Some yarns tend to hold water more than other yarns and, consequently, take longer to dry.

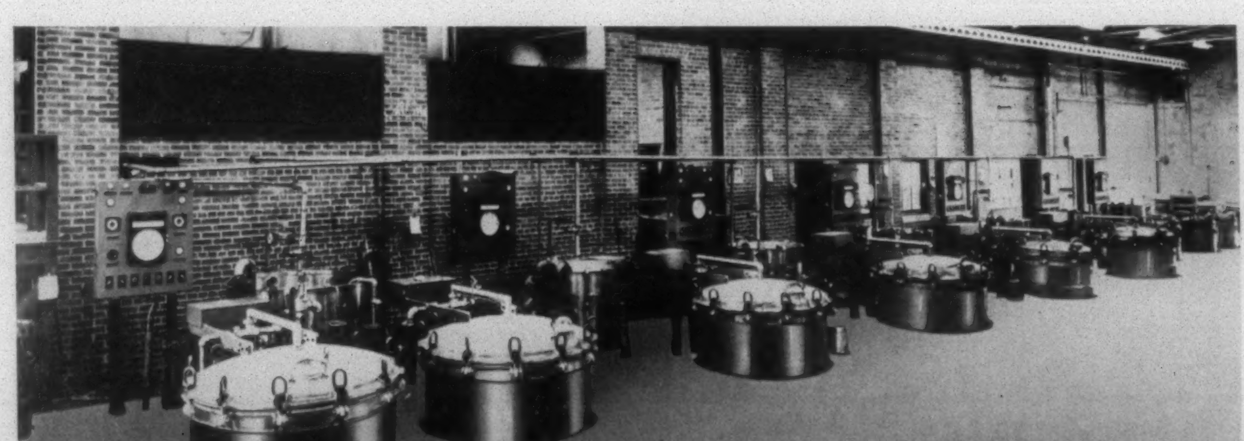
The machine utilizes a blower and relatively low horsepower motor, a heat exchanger, a condenser, a closed kier in which the yarn carrier is placed and piping and valves to connect the various components. The yarn is loaded into the machine, the lid closed, the system shut off from the atmosphere. The blower is started and the initial air movement and pressure extracts the yarn in the same manner as the older pressure extractor. After the initial amount of water has been removed the flow of air generated by the blower passes through the heat exchanger picking up heat, through the yarn, removing and vaporizing the moisture, the moisture laden air passes through a condenser which condenses the moisture from the air (the water is trapped out), the moisture free air is then taken by the blower and recirculated and the process is continued until the yarn is dryed. The fact that the machine utilizes a closed system eliminates the necessity for using any sort of air filtering equipment.

The advantages of this type drying are faster drying, less horsepower and steam consumed per pound of yarn dryed, less chance for harshly dryed yarn due to the fact that there is a certain amount of moisture left in the air which is recirculated through the yarn, less chance for migration due to the fact that extracting can be done cold and then gradual heating after most of the moisture has been removed.

No filters are necessary, all drying and extracting done in one unit, and the fact that the drying is automatic to the extent that all temperatures are pre-set and when the yarn is dry the machine automatically shuts down.

Gaston County as well as Smith-Drum are presently building this type drying equipment under license agreements.

Although the new rapid type dryer is economically suited to the package dyehouse, the vacuum type extraction and pressure type drying will probably continue in most beam dyehouses.



Panel boards mounted behind machines in this package and beam dyeing plant provide precision control over processing cycles.

Maintenance, Engineering & Handling

How To Operate Dryers Efficiently

By LEO WALTER, Consulting Engineer (Part Two)

THE rate of drying may be assumed to be approximately proportional to the difference of pressure in the air, and of vapor pressure near the surface of the wet material. (Fig. 2) shows roughly the suction effect of a lower vapor pressure in the hot air on the higher vapor pressure developed between, or on the surface of solid particles of a material. By controlling air humidity (and thus vapor pressure in air) the rate of drying can be influenced. As the air becomes more saturated with vapor, the total pressure of air/vapor mixture rises and the rate of evaporation drops. In general, two stages of hot air drying can be distinguished. The first stage is called the "constant rate" period, when surface moisture is driven out from the material and carried away. The second stage is called the "falling rate" period, during which water first evaporates from an unsaturated zone near the surface, and later internal liquid emanates from the pores, being driven out from the core (Fig. 3).

The usual calculations are based on the weight of products to be dried per hour, and on moisture differences between dry and wet material. An inlet air temperature which is compatible with the allowed maximum drying temperature of the material is then chosen. From a psychrometric chart an air outlet temperature is assumed at some suitable relative humidity. This gives the weight of air in pounds per minute. Once the fresh air weight is known, the heat required to raise the temperature of the moisture content of the material so as to form vapor at outlet temperature, plus the heat necessary to convert the fresh air dryer temperature, can be assessed. In addition, heat is required during the starting period for warming the structure of the apparatus and compensating for heat losses from the machine. During the running period heat is required for evaporation of moisture, and in the case of air dryers, for making good heat losses from walls, etc. The figure of B.t.u. per pound of water evaporated is thus available from calculations during the drawing-board stage of a new dryer.

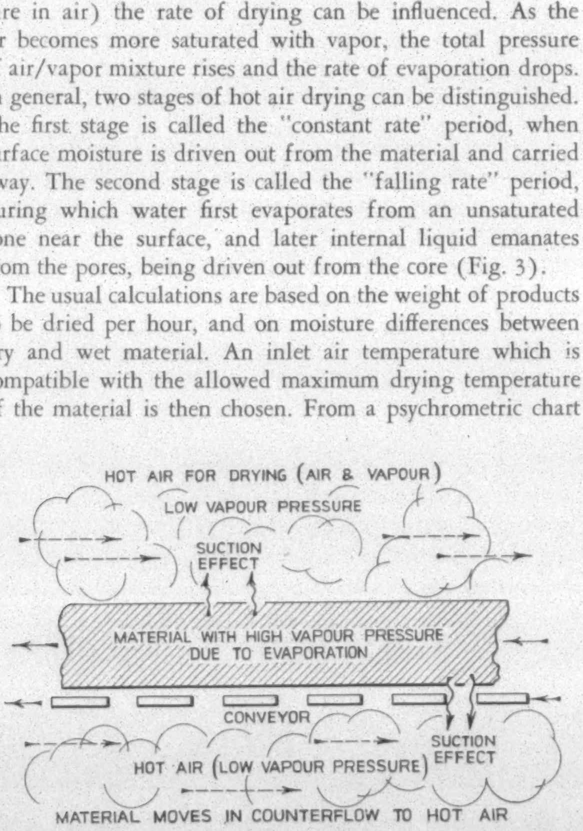

HOT AIR FOR DRYING (AIR & VAPOUR)
LOW VAPOUR PRESSURE
SUCTION EFFECT
MATERIAL WITH HIGH VAPOUR PRESSURE DUE TO EVAPORATION
CONVEYOR
SUCTION EFFECT
HOT AIR (LOW VAPOUR PRESSURE)
MATERIAL MOVES IN COUNTERFLOW TO HOT AIR

Fig. 2—Effect of vapor pressure during hot air drying of cloth.

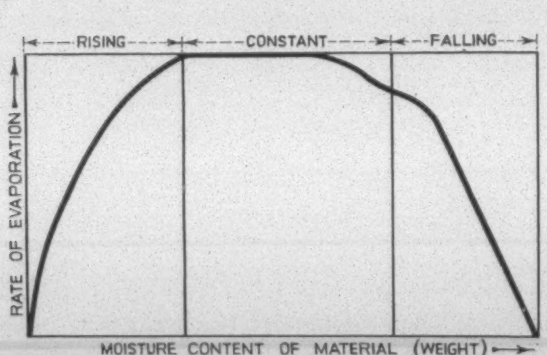


Fig. 3—The stages of warm air drying.

Surface Drying on Cylinders

In contact drying, the particles are brought into direct contact with heated surfaces, usually steam-heated cylinders, and the material stays there until the desired amount of moisture has evaporated. Air must be present to carry away vapors, but the air temperature will always be considerably lower than the surface temperature of the heated cylinder. Conductive transmission of heat from the cylinder surface to the particles of material is governed by (a) surface conditions of material; (b) surface conditions of cylinder; (c) temperature differential between material and cylinder; (d) time of contact (velocity); (e) contact pressure; (f) formation of fluid films inside and outside the cylinder walls; and (g) removal of vapors by the surrounding air, and other factors.

The theory of formation of film layers inside and outside the walls of a steam-heated cylinder is illustrated in Fig. 4. Where material is continuously brought into contact with freshly heated cylinder surfaces, a considerable temperature drop in the steam space extends across the layers of inner films, through the cylinder walls, and across the fibrous substance to the outer atmosphere. An increase of rate of heat transfer can be achieved either by removing the greater part of inner condensate film (F_1) or by changing its nature from stagnant to turbulent, the latter condition producing better heat emission into the cylinder wall. Another method is removal of the outer films (F_3 and F_4) by blowing hot air into the spaces between the cylinders and material (Fig. 4a).

The amount of heat which a cylinder or roller surface can give up depends, among other factors, on the steam supply pressure which in its turn, determines the steam temperature for saturated steam. It is not always realized that the heat available for transfer via the roller walls, namely, the latent heat of steam condensation, is higher at lower steam supply pressures. Efficient trapping and air venting, therefore, by removing the condensate—and air film will increase heat transfer irrespective of pressure of supply.

Steam—Owing to the higher content of latent heat in steam of lower pressure, there is no need to use high steam pressure for cylinder dryers; these generally have sufficiently great heating surfaces for transferring the required amount of heat, and possess good-sized steam supply pipes to convey the steam quantity at lower pressure.

It may, therefore, sometimes be highly advisable to operate cylinder dryers with lower steam supply pressure, if it is evident that output can still be maintained, and a reducing valve that would ensure a constant steam supply pressure to the dryer at the lowest permissible pressure and temperature could be fitted as a steam and fuel-saving measure. Such a practice obviates unsteadiness in output often caused through pressure and temperature fluctuations, and insures better steam utilization from every angle. In addition, regulation by manual control is more easily performed. In the case of automatic control, low steam-supply pressure is always advisable, since it increases "controllability" of the drying apparatus and enables the use of less elaborate control instruments, with the achievement of closer results.

Dryer Investigation

Exact measurements are required to obtain a picture of how a drying apparatus really works. It is, therefore, of primary importance to eliminate guesswork from dryer performance. The following are a few tentative questions, applicable to most types of dryers, which should be answered before any attempts at improvement are made:

(1) What is the allowable maximum and advisable safety margin for drying temperatures? Is temperature kept constant all the time, or has it to be reset for different products?

(2) Which time-temperature curve is desirable for the textile product?

(3) What is the exact nature and quality of the product to be dried? Is there any tendency towards discoloration, decomposition of finish, change of texture, etc., by reason of undue heating?

(4) Is the moisture content of textile products entering and leaving the dryer subject to variation, and if so, within what limits, and how is it measured?

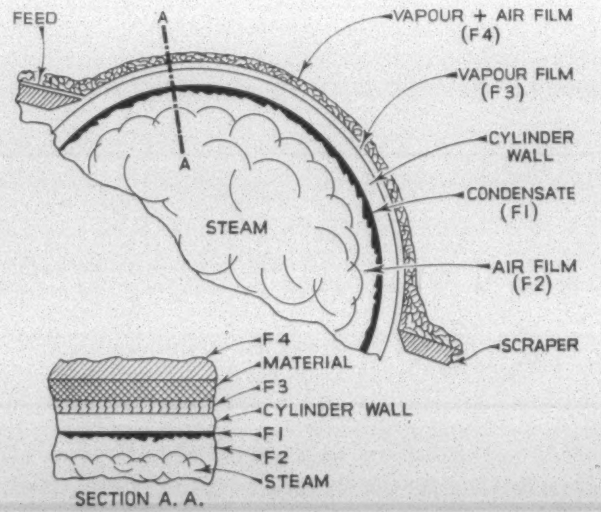


Fig. 4—Internal and external film formation on cylinder of can dryer.

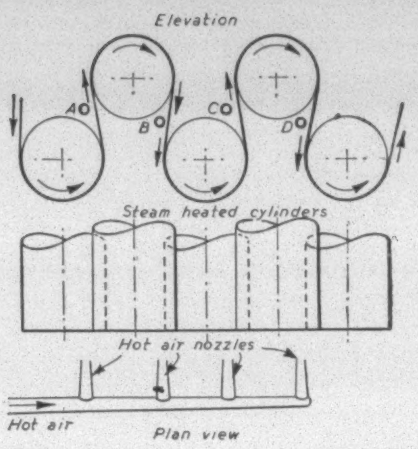


Fig. 4a—Method of improvement of drying rate of cylinder dryer by blowing hot air between surfaces of cylinder and material.

(5) What is the humidity of air leaving the dryer or being used for recirculation? How is it measured? What is the humidity of air entering the dryer? Is it constant?

(6) If hot-air drying is used, are the fan data shown on the nameplate being used or are details obtained from the makers of the dryer or the fan? What is the speed of air in various sections of the dryer and how is it measured?

(7) If a cylinder dryer is used, what are the dimensions of cylinders, velocity of surface rotation, etc.?

(8) If a conveyor dryer is used, what is the normal, maximum possible, and lowest conveyor speed? What is the weight of material placed on conveyor in pounds per square foot of conveyor surface? Is there a constant conveyor speed, or is it varied according to the product? What causes machine stoppages and how often do they occur?

(9) What time is taken to heat up from cold or after breaks?

(10) Is pre-drying of the product applied? If so, how, and is any increase possible?

(11) What are the steam pressures and temperatures, and are there any means for steam trapping, air venting, or returning condensate to boiler?

(12) Which measuring and/or controlling instruments are fitted? Are these permanent or temporary?

(13) What are the results of measurement of air temperature relative humidity of exhaust air, of air speed, of steam consumption, etc.?

(14) Does there exist a blueprint or roughly dimensioned sketch of the dryer?

By answering the above questions, a fairly good idea should be obtained of how a dryer works, and where improvements are indicated.

Standby losses of continuous dryers, using conveyor belts or other means for moving the material through the apparatus, can be considerable. Dryers consume heat and steam, unless heat input is shut off by the plant operator if stoppages occur. To leave steam on full bore during these breaks means waste of fuel and money. During the lunch hour, the proper closing of steam valves to all idle consumers of steam should be insured. The issue of precise instructions to operators of drying apparatus will assist in the reduction of heat losses from this source.

Heat losses during heating-up when starting a machine from cold are inevitable, but they can be reduced by shortening heating-up time, using improved steam trapping. All such heating up and standby heat losses should be carefully investigated; the provision of a time schedule, to which foremen and operators have to adhere, will be found of value.

Where a hot-air dryer or tenterer works under slight air pressure, hot air lost through leakage has to be replaced by warm air, thus causing wastage of heat and power for driving fans. Air infiltration in the feed end and at the discharge end of conveyor dryers can be prevented by keeping openings as small as possible and by providing trap doors. Air leakage from a dryer under pressure can be easily detected by means of a lighted candle, and any cracks or slits in steel plate work or duct work should be sealed.

Control of Hot-Air Drying Operations

In general the factors which influence dryer performance are: temperature, humidity, speed or air movement, and, for continuous drying, rate of movement of material. Hot-air drying is evaporation of moisture located on the surface and between the fibers of a substance, and physically or chemically affixed to the smallest particles, as mentioned before.

Heat flow in hot-air drying starts from the heating medium, which transfers its heat content intermediately to the air. In general, heat flow proceeds as follows: inflow of a heating medium into a heat generator, which in turn transfers the heat to the hot air. The latter in turn warms up the material to be dried, including the moisture, which has to be driven out and evaporated.

In any type of dryer, whether batch or continuous, the quality of drying depends on balancing heat input and rate of evaporation at any particular moment. The means of influencing rate of drying, whether by hand or automatic control, are: (1) change of temperature; (2) change of humidity of air; (3) change of velocity and/or direction of air, relative to the material; (4) change of air volume; (5) change of conveyor speed or of speed of material through a continuous dryer; (6) change of moisture content of material when entering the dryer. Each of these factors can be controlled, thus achieving a correct rate of drying and the desired final moisture content.

Comparing Thermal Efficiency

The usual criterion of thermal dryer efficiency is the term "pound of steam per pound of moisture evaporated;" this is not fully correct, because it does not take into account either steam pressure or quality of fuel from which steam has been generated. The better term would, therefore, be "B.t.u. per pound of moisture evaporated."

Two ways are open for a plant engineer to arrive at reliable steam consumption figures—by measurement of steam or condensate from heating surfaces, or by simple calculation. In the measurement of condensate, flash steam has to be taken into account, i.e., the weight of evaporated condensate which forms when "superheated" water is released from a condensate line to the atmosphere, the weight of which has to be added to the weight of liquid condensate.

For convenient measurement, a new low-priced steam meter is now on the market; based on differential pressure measurement from an orifice inserted in the steam supply line, this instrument works on the manometer principle.

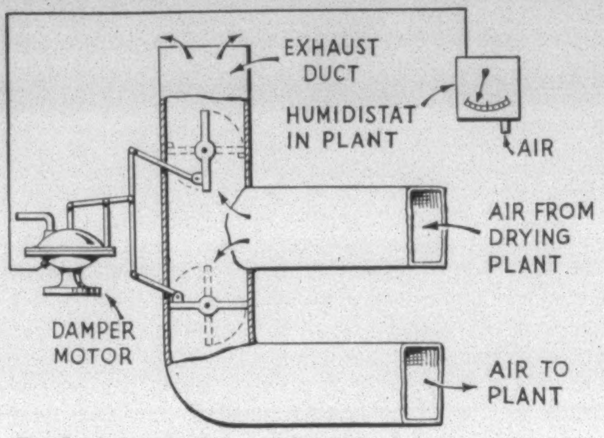


Fig. 5—Automatic change of humidity of drying air by using humidistat and air recirculation control.

It is not the total steam consumption of two identical machines, which indicates thermal efficiency, but the amount of moisture evaporated per pound of steam, of the same pressure and dryness fraction. For example, where the moisture in the material entering and emerging from the dryer, the weight of dried material per hour, and steam consumption in pounds per hour are known, then the weight of bone-dry material obtained per hour is:

$$\frac{100 - \%\text{ after drying}}{100} \times \text{weight of dried material/hour.}$$

Pounds of moisture per hour is:

$$M = \frac{\%\text{ moist}}{(100 - \%\text{ dry})} \times \text{weight bone-dry.}$$

The weight of steam per lb. moisture evaporated is then:

$$W = \frac{\text{Steam consumption} \quad \text{in lb.}}{M}$$

To improve the efficiency of hot-air dryers, all external surfaces should be insulated to prevent heat losses. The temperature and humidity of air and also air velocity should be measured at different points in the machine. Faults may become apparent in heat distribution, in too low humidity content of exhaust air, or as a "dead" corner. Utmost cleanliness of the outer and inner surfaces of heating coils must be secured, and efficient removal of condensate and air should be carried out. Tests will reveal the best applicable air volume and speed.

Sometimes changes in the speed of the fans might not cure the trouble, and a complete change of the size of the fan may be advisable. Where high air temperature and low humidity of exhaust are known to be present, the adoption of air recirculation is indicated. Automatic temperature and humidity control should remove the vagaries of the human element.

Heat input into a drying room or apparatus is used: (a) to warm up the goods to be dried; (b) to supply heat required for evaporation of moisture from the goods; (c) to replace heat lost when warm goods leave the dryer; (d) to replace heat lost in exhaust air; (e) to replace heat lost in condensate; and (f) to replace heat by radiation from dryer surfaces, by leakage of hot air, and other causes. Heat required for the evaporation of moisture from the goods

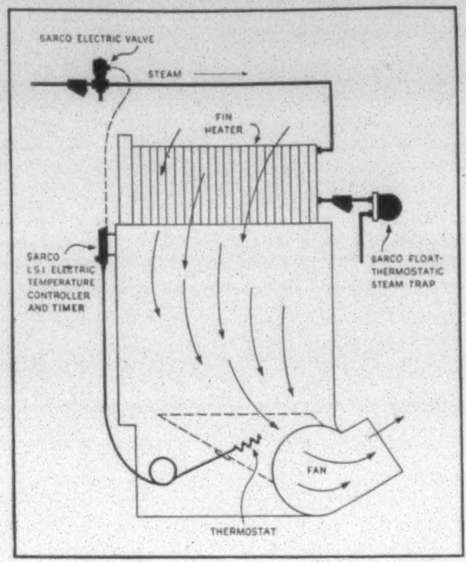

SARCO ELECTRIC VALVE
STEAM
FIN HEATER
SARCO LSI ELECTRIC TEMPERATURE CONTROLLER AND TIMER
SARCO FLOAT-THERMOSTATIC STEAM TRAP
FAN
THERMOSTAT

Fig. 6—Sarco electric temperature controller regulates steam supply to fin heater of drying tumbler.

(called the effective heat) may range from 40 to 70 per cent of the total heat input. The sensible heat utilized for warming up the goods may range from as little as three per cent up to 25 per cent. Heat losses can range from 15 to 50 per cent of the total heat input.

The amount of heat required for warming up a certain weight of air is:

$$H = W (t_2 - t_1) \times S.$$

In this formula, H is expressed in B.t.u., S is the specific heat of air in B.t.u./ cu. ft./°F. (as a rough average 0.24), t_2 is outlet air temperature, t_1 is inlet air temperature in the heater in °F.

In order to transform weight of air into the air volume at a certain temperature, the following formula can be used:

$$\text{Weight of 1 cu. ft. in lb.} = \frac{40}{\text{°F. abs.}}$$

$$\text{Or vol. cu. ft. at °F} = \frac{\text{Weight} \times \text{°F. abs.}}{40}$$

To obtain a rough estimate of the air volume required for theoretical evaporation of a given quantity of moisture, inlet temperature, humidity, and corresponding outlet figures have to be known or assumed. Under average conditions fresh inlet air can be assumed to be at 60° F., and about 40 per cent relative humidity. The calculation for hot-air drying is then based on the amount of moisture to be evaporated by correct rate of heat input, and to be carried away by the right amount of air.

Calculating the Heating Surface

Assuming that the amount of heat required is known, and a steam pressure and temperature are chosen which provide a temperature differential between drying temperature and steam temperature, the heating surface can be calculated. This will depend on air quantity and velocity, and on heat transfer through the heating roll. The coefficients for heat transfer from steam to air are given for each type, size and quality of pipe. For example, three B.t.u. per square foot coil surface per degrees F. temperature difference per hour may be assumed for very low air velocity in a drying room.

The over-all thermal efficiency of a hot-air drying plant, based on fuel consumption, can be expressed as

$$E = \frac{\text{lb. evaporation} \times \text{latent heat.}}{\text{lb. of fuel} \times \text{calorific value.}}$$

which is the ratio between useful heat input to heat requirements.

The following figures are given for rough estimates: air temperature will drop approximately 8.5° F. per grain of water evaporated per cubic feet of air (measured at 70° F.) Measured at any temperature, the temperature drop will be about 0.62° F. per pound of air per grain of water evaporated. For each B.t.u. extracted, air temperature will be reduced 55° F. per cubic foot. In one passage, air will generally absorb from two grains to five grains moisture per cubic foot. For rough estimates of steam consumption, 2½ to three pounds of steam per pound of evaporated moisture can generally be assumed.

A.I.E.E. Electrical Conference, March 1-2

The 1956 Conference on Electrical Application for the Textile Industry, sponsored by the Textile Subcommittee of the American Institute of Electrical Engineers, will be held March 1-2 at the Hightower Textile Building, Georgia Tech, Atlanta.

The conference will get under way with a morning session Thursday, March 1, beginning at 10 a.m. Speakers scheduled for this session, and their topics, include R. H. Clark, chief electrical engineer, Warner & Swasey Co., Cleveland, Ohio, "Proposed Recommended Practices for Electrical Installation on Textile Machinery"; Herman Granberry, head of the mechanical engineering department, research division, West Point Mfg. Co., Shawmut, Ala., "What Management Expects of Its General Engineer"; and Peter Davey, consulting engineer, Vibroscope Co., Glenford, N. Y., "Field Testing and Improvement of Dynamic Balance." Victor Sepavich of Crompton & Knowles Loom Works, Worcester, Mass., chairman of the A.I.E.E. Textile Subcommittee, will preside at the morning session.

The second session will be held Thursday afternoon, March 1, with H. S. Colbath, plant engineer, Bibb Mfg. Co., Macon, Ga., presiding. Speakers at this session will include E. A. Lindsay, head of industrial lighting department, General Electric Co., Nela Park, Cleveland, Ohio, "What Is New In Lighting"; and R. S. White, chief electrical engineer, Universal Winding Co., Providence, R. I., "Electrical Testing Instruments."

The conference will be concluded on Friday, March 2, with a morning session scheduled to get under way at 9:30 a.m. Swaffield Cowan, Factory Insurance Association, Charlotte, N. C., will preside. Speakers will include Professor Nottingham, electrical engineering department, Georgia Institute of Technology, "The Fundamentals of Electronics"; and Mr. Cowan, "Why We Need Recommended Practices for Electric Installations on Textile Machinery." Following these two papers will be a panel discussion on "What Is Your Problem?" led by J. D. McConnell, plant engineer, Cone Mills Corp., Greensboro, N. C. A selected panel of engineers will be appointed to answer questions and discuss practical problems concerning textile plant electrical installations and operations.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Ceasar Cone

Ceasar Cone, treasurer of Cone Mills Corp., Greensboro, N. C., has been elected president of the company to succeed his late brother, Herman Cone, who died last Dec. 10. Benjamin Cone, another brother and a director of the company, has been named chairman of the board, a post also held by the late Herman Cone. Herman Cone Jr. has been named a member of the board. . . . Ceasar Cone, the new president, is the third son of the late Ceasar Cone I, co-founder of the company. Born in 1908, he has spent his entire business life with the company. He was elected to the board in 1940 and was named treasurer in 1946. He was graduated from the University of North Carolina and Harvard Business School. . . . Benjamin Cone, new chairman of the board, is the second son of the late Ceasar Cone. Born in 1899, he graduated from the University of North Carolina in 1920 and has spent his entire business career with the company. He was first elected a director of the company in 1922. He gave up the office while serving as a Naval officer in World War II, and was re-elected a director upon his return in 1946. . . . Herman Cone Jr., the new board member, was born in 1923 and attended the University of North Carolina in 1942 and 1943. During World War II he attended the Naval Supply Corps School at Harvard Business School. He began his affiliation with the company in 1946, and was recently made manager of the company's Edna Plant at Reidsville, N. C., and the Pineville (N. C.) Plant. He was also recently named a member of the board of governors of the Southern Textile Association, to fill the unexpired term of Cecil J. Squires of Fieldcrest Mills Inc., Draper, N. C. The term expires in 1958.

Benjamin Cone

Herman Cone Jr.

J. Guyton Boston, general sales manager of the textile division of Celanese Corp. of America, has been named assistant director of marketing for the division. He will make his headquarters in New York City. W. D. Clark, former assistant general sales manager, succeeds him as manager. . . . Harlan M. Trammell has been appointed director of rayon operations in the manufacturing department of the company's textile division. He was formerly manager of viscose operations and cotton linters purification.

J. Morton Curran, Jr., president of Morton Curran & Co. Inc., has been elected chairman of the textile section of the New York Board of Trade. He succeeds A. James Mill, senior vice-president, Mill Factors Corp. William P. Wright Jr., vice-president of J. Walter Thompson Co., was elected vice-chairman; Ralph J. Bachenheimer, Iselin-Jefferson Co. Inc., was named treasurer; and Thomas O. Boucher, vice-president of Chicopee Mills Inc., was elected representative to the New York Board of Trade directorate. Mr. Curran is also president of Summerville (Ga.) Mfg. Co.

John H. Markert has joined the industrial division of Tower Iron Works of Providence, R. I., in the capacity of sales engineer for the company's textile processing equipment. Mr. Markert has previously been associated with J. P. Stevens & Co. at Andover, Mass., and more recently with prominent textile machinery manufacturers in sales and production work.

Richard S. Perry, Gilbert Blair and Thomas M. Turner have been named vice-presidents of William Iselin & Co. Messrs. Perry and Blair have been contact officers and assistant vice-presidents, and have helped to develop the company's advance and budget department. Mr. Perry joined the old-line factoring firm in 1942. Mr. Blair joined the company in 1928, and has spent his entire business career with Iselin. Mr. Turner has been an assistant vice-president since 1944. He helped to establish the retail division of the credit department.

J. J. Adams has been promoted from general superintendent to general manager of the Rock Hill (S. C.) Printing & Finishing Co. Mr. Adams has been general superintendent since 1946, and a vice-president since 1954. He succeeds William H. Grier, who has been named executive vice-president of both the M. Lowenstein & Sons plants at Rock Hill and Lyman, S. C. Also a director of the company, Mr. Grier will continue to have his home and office in Rock Hill. . . . Other promotions include those of James M. Bennett, from divisional superintendent to general superintendent and vice-president of the Rock Hill plant; J. Ben Mayo, from divisional superintendent to assistant to the executive vice-president, and liaison man between the Rock Hill and Lyman plants; and Durward Costner, from divisional superintendent to assistant general superintendent.

L. G. Urquhart

L. G. Urquhart has been designated acting chief engineer for the H. F. Livermore Corp. of Boston, Mass., and Greenville, S. C. He replaces S. O. Dodge, chief engineer, who has resigned. Mr. Urquhart has had wide engineering experience in the operation of weaving looms for all kinds of fabrics. For ten years prior to joining Livermore, he served as a consulting engineer in connection with various research work on looms. For the past eight years with Livermore he has been service and research engineer.

Dr. A. I. Goldberg and O. B. Wurzburg Jr. have been advanced to associate directors of research by National Starch Products. Dr. Goldberg joined National in 1947. Mr. Wurzburg has been specializing in starch research for National since graduating from the University of Michigan in 1939. . . . Fred Eastman has been appointed superintendent of process development. He has been with the company since 1939.

James King

James King has joined Burlington Industries as a vice-president in charge of industrial engineering. Mr. King will be responsible for this activity in a staff capacity, and will make his headquarters in Greensboro, N. C. He was formerly vice-president and chief engineer of American Associated Consultants Inc., making his home in Atlanta, Ga. He has been active as a consultant in industrial engineering since 1937. . . . E. P. Cave, chairman of the board of Ely & Walker Co. of St. Louis, Mo., has been elected to Burlington's board of directors. Mr. Cave has been chairman of Ely & Walker for the past two years, and prior to that had served as president of the company since 1930. Ely & Walker was acquired by Burlington in September of last year. . . . C. Lowrey Stafford Jr., formerly a vice-president of National Mallinson Fabrics, a member organization of Burlington, has been named president. He succeeds Charles L. Gerli, who has resigned. Mr. Stafford, a native of Greensboro, has been with Burlington since June 1948. . . . James Rotan, formerly assistant superintendent of Burlington's Mays Plant in Cramerton, N. C., has been named superintendent of the company's Phenix Plant at Kings Mountain, N. C. He succeeds John T. Lathem, resigned.

Joe C. Cobb

Joseph C. Cobb has been named executive in charge of all synthetic fabric manufacturing operations for Reeves Brothers Inc. Mr. Cobb until recently was with Pacific Mills, where he was vice-president in charge of synthetics and cotton manufacturing operations. He was with Pacific ten years. Mr. Cobb will make his headquarters at Osage Mfg. Co., Bessemer City, N. C., a Reeves subsidiary.

J. (Pat) Witter has been named a sales representative for Henley Paper Co., with headquarters in High Point, N. C. Mr. Witter was formerly with Gilman Paper Co. as Southeastern representative. Prior to that he was with Minnesota Mining & Mfg. Co. and Remington-Rand Co. He will specialize in sales primarily in the textile and hosiery industries. . . . In a number of other changes and advancements in executive personnel, George U. Urwick, vice-president and division manager of the Charlotte, N. C., branch, has been named executive vice-president; A. D. Grant, vice-president, has been named treasurer, assuming the position previously held by A. B. Henley, president; and E. Reese Felts and Harry E. Anthony have been named vice-presidents.

Dorman Compton has been appointed technical sales representative in the South for The Hilton-Davis Chemical Co., Cincinnati, Ohio. Mr. Compton will make his headquarters in Greensboro, N. C., and represent the company's Greenville, S. C., sales office in Virginia, West Virginia and North Carolina.

Clayton M. Holt and William L. McFadden have been named to managerial positions in the newly-formed electro chemicals division of Diamond Alkali Co., Cleveland, Ohio. Mr. Holt, manager of chlorine sales since October 1941, has been named manager of chlorine and hydrogen sales. Mr. McFadden, special staff assistant in the sales department for the past year and a half, has been named manager of caustic soda sales. Both men will continue to maintain their headquarters at Diamond's general offices in Cleveland.

Marchant C. Cottingham, who has been serving as general manager of Erwin Mills Inc., Durham, N. C., has been elected a vice-president of the company in charge of manufacturing. Edward W. Siegler, vice-president of manufacturing, was named vice-president and general manager. All other officers of the company were re-elected. They are F. E. Grier, chairman of the board; William H. Ruffin, president; Ralph T. Marshall, vice-president and treasurer; Carl R. Harris, vice-president in charge of personnel and industrial relations; N. A. Gregory, vice-president in charge of sales; John McArthur, controller; and E. W. Dunham, secretary. . . . C. O'Neal Walker, manager of Erwin's Mill No. 8 at Stonewall, Miss., has been elected scout commissioner for the Choctaw Area Council Boy Scouts of America.

Robert S. Brice, executive vice-president and general manager of E. E. Smith & Son Inc., Gastonia, N. C., has been elected president and a member of the board of directors for the company. All other officers were re-elected. They include Mrs. Aulton B. Smith, chairman of the board; Thomas R. Payne, secretary; Mrs. Lillian D. Wilson, assistant secretary; and Mrs. Nancy K. White, assistant treasurer.

W. T. Meinert has been named to succeed N. A. Ruston as director of development and service for Emery Industries Inc., Cincinnati, Ohio. Mr. Ruston, who joined Emery in 1930, retired Feb. 1. Mr. Meinert was formerly assistant director of the department. He joined the company seven years ago. He holds a B.S. degree in chemistry from St. Ambrose College, Davenport, Ia., and a M.S. degree from the Institute of Textile Technology at Charlottesville, Va.

Lee C. Shook has been named a sales representative for Louis P. Batson Co. of Greenville, S. C. Mr. Shook will cover a portion of North and South Carolina, Georgia and Tennessee. He has been calling on the textile trade in the same area for the past five years and prior to that was associated with Woodside Mills, Liberty, S. C.; Riegel Textile Corp., Ware Shoals, S. C.; and the Dunean Plant of J. P. Stevens & Co. Inc. at Greenville, S. C. Louis B. Batson Jr. and Elliott Batson will also continue to cover a portion of the above mentioned states.

B. E. Smith, formerly manager of Roseboro (N. C.) Spinning Mill, has joined All-Fiber Textile Machinery Co. Inc. of Belmont, N. C. Mr. Smith is a graduate of Clemson College.

Frederick S. Haslam, former president of The Bell Co., Worcester, Mass., has joined Amerotron Corp. to head a quality control department for finished goods. This department is said to represent a consolidation of already existing quality control units in the spinning, weaving and dyeing sections of the company. Prior to being named president of Bell, Mr. Haslam was general manager in charge of all the company's manufacturing. . . . George Baumer, who held a similar position at Bell, has joined Amerotron to assist Mr. Haslam. . . . Marvin B. Self, for ten years training director of Drayton Mills, Spartanburg, S. C., has accepted a training position with Amerotron.

William I. Kent has been elected president of Kent Mfg. Co. of Clifton Heights, Pa., to succeed his father, Everett L. Kent, who assumes the new post of board chairman. Formerly vice-president, Mr. Kent is the fourth generation of his family to head the firm. Kent operates two Southern plants, The Runnymede Corp. at Pickens, S. C., and Edenfield Mills Inc., Leeseville, S. C., both producing French spun worsted yarn.

Robert P. Caldwell, vice-president of Trenton Cotton Mills, Gastonia, N. C., has been elected president of the Gastonia Chamber of Commerce. He succeeds A. G. Myers Jr. of Textiles Inc., Gastonia.

E. Hays Reynolds

E. Hays Reynolds has joined Chas. S. Tanner Co., manufacturing chemist, Greenville, S. C., as sales representative covering mills in North Carolina, Virginia and Tennessee. Mr. Reynolds was formerly assistant Southern sales manager of the textile division of Keever Starch So. He had been with Keever nine years.

Harold L. Roberts has been appointed general manager of throwing production for the Duplan Corp., with headquarters at Charlotte, N. C. He succeeds John K. Cochran, who recently resigned as vice-president and general manager. Mr. Roberts has been with Duplan since 1950 in various capacities.

O. A. Corriher has been named treasurer of Linn Mills Co., Landis, N. C., to succeed the late L. A. Corriher. Other officers of the company include J. F. Lipe, president and manager; Lane C. Dry, secretary and assistant superintendent; and William P. Beaver, assistant secretary.

C. P. Gordon, general manager of the Ware Shoals (S. C.) Railroad and traffic manager of the Ware Shoals division of Riegel Textile Corp., has retired. J. B. Hughes, formerly general agent and assistant to the traffic manager, succeeds him.

Jesse W. Jackson has been named manager of the New Holland, Ga., plant of Pacolet Mfg. Co. to fill the vacancy created by the resignation of George Baker. Mr. Jackson was formerly general manager and assistant treasurer of Laurens (S. C.) Mills. Prior to that he was with Columbus (Ga.) Mfg. Co.

James D. Lorigan has been named vice-president of Textile Banking Co., New York City. Mr. Lorigan has been an assistant vice-president, and has been with the firm 25 years. With the new title, he will become a contact officer and handle new business.

J. Bynum Carter has been named vice-president and plant manager of A. B. Carter Inc., Gastonia, N. C., to succeed the late E. L. Ramsey. Mr. Carter was formerly assistant plant manager.

T. Frank Suggs, chief engineer at Cocker Machine & Foundry Co., Gastonia, N. C., has been elected to the firm's board of directors. All other officers and directors were re-elected as follows: John Cocker III, president and general manager; John C. Bodansky, vice-president and treasurer; L. B. Hollowell, secretary; and E. Haines Gregg, J. G. Reading, Courtney Mauzy, C. Dean Klahr, C. D. Klahr Jr. and Mr. Suggs as directors.

C. W. Weymouth

Charles W. Weymouth has joined Roberts Co. of Sanford, N. C., as service engineer. For the past seven years, Mr. Weymouth has been overseer of spinning at Merrimack Mfg. Co. in Lowell, Mass. Prior to that he was with Nashua (N. H.) Textile Co. Inc. for 17 years, serving as plant engineer during the latter part of this period.

The Johnston Mills group has announced the following executive personnel changes: Named to succeed R. W. Stokes as president, treasurer and a director of Spinners Processing Co., Spindale, N. C., are David R. Johnston, president; Charles J. Stokes, secretary-treasurer; and Albert Orr, director. . . . Charles J. Stokes has been moved from secretary to vice-president of Johnston Mfg. Co., Charlotte, N. C., replacing R. W. Stokes. Named secretary was Arthur R. Newcombe. . . . At Johnston Mills Co., positions of vice-president and treasurer vacated by R. W. Stokes were assumed by Charles J. Stokes, vice-president, and Donald R. Jonas, executive vice-president and treasurer. . . . Charles J. Stokes was named president of Eastern Mfg. Co., Selma, N. C., and president and treasurer of Anchor Mills Co., Charlotte, replacing R. W. Stokes. David R. Johnston was named vice-president of Anchor Mills to succeed Charles J. Stokes.

A. J. Mitchell, president and treasurer of Shamrock Damask Mills Inc., Landrum, S. C., has been elected a director of the Commercial National Bank, Spartanburg, S. C. Directors re-elected for 1956 include James A. Chapman Sr., president and treasurer of Inman (S. C.) Mills, and Walter S. Montgomery, president and treasurer of Spartan Mills, Spartanburg.

D. H. (Pat) Patterson of Greenville, S. C., well known in Southern textile circles, has been named Southern representative for John W. Little Co., Pawtucket, R. I. Little supplies labels, tags and bands to the industry.

John T. Newton, superintendent of Mill No. 1, Dundee Mills Inc., Griffin, Ga., has been named plant manager. Mr. Newton, a graduate of the University of Georgia, joined Dundee in 1950. . . . J. Henry Walker has been promoted to superintendent of Mill No. 1 to succeed Mr. Newton.

Paul E. Crocker has resigned as treasurer, secretary and clerk of Pepperell Mfg. Co. Mr. Crocker, who will continue with the company on a consulting basis as well as a member of the policy committee, has been with Pepperell since 1920. He has, at various times, held the positions of vice-president, controller, trustee, director, secretary, clerk of corporation and treasurer. . . . Lyman H. Smith and Frederick D. Strong have been named treasurer, and secretary and clerk, respectively. Mr. Smith has been assistant to the president, and has been with the company for more than 23 years. Mr. Strong, who has been controller for the past nine years, continues at that post in addition to his new duties as secretary and clerk.

Raymond W. Riedel has been named manager of the Saco-Lowell Shops plant now under construction near Easley, S. C. Mr. Riedel has held several important positions with the company since joining it in 1948, including 15 months' service at the company's Sanford, N. C., plant. Prior to joining Saco-Lowell, he was with SKF Industries Inc., Philadelphia, Pa., from 1920 to 1942, advancing to planning manager; was with the Brooklyn, N. Y., division of Sperry Gyroscope Co. Inc., as production control superintendent; and was production superintendent with Bath Iron Works Corp. in Maine. . . . J. Harvey Frick has been named divisional personnel manager for the plant. Mr. Frick, a past chairman of the personnel division of the South Carolina Textile Manufacturers Association, was formerly training and safety supervisor for Greenwood (S. C.) Mills.

Deering, Milliken Co. has announced the following personnel changes at area mills: James Bailey, general manager at Judson Mills, Greenville, S. C., has been named vice-president and general manager. He joined Judson in 1939 as superintendent. . . . Alfred G. New, Judson superintendent since 1953, has been named plant manager. He joined the firm in 1939 as head of quality control. . . . Garland G. Simmons, general manager of Drayton Mills, Spartanburg, S. C., has been named treasurer and general manager of the firm. . . . Martin G. Wallace, superintendent of Laurens (S. C.) Mills since 1954, has been appointed plant manager to succeed Jesse M. Jackson. Mr. Jackson resigned recently to accept a position as manager of the New Holland, Ga., plant of Pacolet Mfg. Co.

Robert O. Arnold has been named chairman of the board, chairman of the executive committee and president of Fulton Bag & Cotton Mills, Atlanta, Ga. The firm has effected a new divisional reorganization with three new divisions set up, each headed by a vice-president. These divisions are: Mills Division, Norman E. Elsas, vice-president; fabrics division, Clarence E. Elsas, vice-president; bag division, Jason M. Elsas, vice-president. Norman Elsas was former chairman of the board and Clarence Elsas was president of the firm. Fred G. Barnet and E. Monroe Hornsby have been named vice-presidents, and Eugene Cronheim, secretary-treasurer.

Fieldcrest Mills Inc., Spray, N. C., has appointed Robert C. Greene as superintendent of its synthetic fabrics mill. Mr. Greene was formerly with Burlington Industries, and immediately before joining Fieldcrest was superintendent of Burlington's weaving mill in Newton, N. C. He is a graduate of the North State College School of Textiles. . . . B. A. Bobbitt has been promoted to the new position of assistant to the superintendent of Fieldcrest's towel mill at Fieldale, Va., where he will work on special assignments. Mr. Bobbitt has been with Fieldcrest since he graduated from North Carolina State College in 1951. He first was a student employee in the domestics designing department and, since January 1953, had been assistant head of the department.

Three executives of the Alexander Smith Division of Mohasco Industries Inc., newly-formed carpet manufacturer, have resigned. They are A. Griffin Ashcroft, vice-president and director of research and development; John W. Allen, general sales manager; and Joseph A. Tully, director of general purchasing.

Johnnie P. Thaxton has been promoted to assistant overseer of the Griffin, Ga., branch of Thomaston Mills. Mr. Thaxton was formerly shift overseer in the plant's No. 1 weave department. Succeeding Mr. Thaxton as shift overseer is Merrell D. James, promoted from loom fixer in the same department.

Carson E. Freeman has been named head of the burling department of Chatham Mfg. Co., Elkin, N. C. He succeeds his uncle, E. J. (Jack) Freeman, who retired Feb. 1 at the age of 65. Carson Freeman has been with the burling department 25 years and with Elkin 28 years. For the past several years he has been assistant foreman of the burling department. Jack Freeman joined the company in 1912, and had been head of the burling department since 1924. . . . Alan Payne has been named assistant department head of raw stock processing for Chatham. He has been with the firm since 1952. For the past year he has been engaged on a special assignment under the supervision of Raymond E. Henderson, director of manufacturing, and J. A. Murphy, superintendent.

C. G. Waters of Belmont, N. C., has been named superintedent of Dillon (S. C.) Spinning Corp.

Dover Mill Co. of Shelby, N. C., has announced the following personnel changes in its plants: Emmett Blanton has been named superintendent of Esther Yarn Mill Co., Boiling Springs, N. C. . . . Guy Walker has been named superintendent of Dover Yarn Mills Inc., Buffalo, N. C. . . . F. D. Quinn Jr. has been named superintendent of Dora Yarn Mill Co., Cherryville, N. C., and John McGinnis has been named assistant superintendent at Cherryville.

Walter E. Floyd has been named superintendent of Goodyear Clearwater Mills, Mill No. 3, Atco, Ga., to succeed Guy I. Parmenter, who retired Feb. 1. Mr. Floyd joined Goodyear at its Los Angeles, Cal., plant in 1920, and was named assistant superintendent of Clearwater in 1930. He was assigned to the company's Decatur, Ala., operations as superintendent in 1937, returning to Atco in late 1938.

D. Cameron Turrentine, manager of the Monaghan Plant of J. P. Stevens & Co. Inc., Greenville, S. C., has been named executive vice-president of the properties Stevens recently acquired from the Simmons Co. in Roanoke Rapids, N. C. The properties include Patterson Mills Co., Roanoke Mills Co. and Rosemary Mfg. Co. Mr. Turrentine will work under Frank C. Williams, who continues as president and treasurer of the four plants. . . . Managerial appointments in Group No. 1 of the cotton and spun fibers division of Stevens, which includes the Monaghan Plant in Greenville, and the Greer and Victor Plants in Greer, S. C., have been announced. W. S. Huff, C. F. Stansell and D. A. Stansell, former general superintendents, have been appointed plant managers of the Greer, Monaghan and Victor Plants, respectively. . . . Dan M. Leister has been appointed manager of the Stevens plant in Whitmire, S. C. He will continue as manager of the Appleton Plant of the same group located in Anderson, S. C. J. H. Abrams and F. X. Magarahan are assistant managers of the Whitmire and Appleton Plants, respectively.

J. Hillman Zahn

J. Hillman Zahn, manager of the Charlotte, N. C., office of H. W. Butterworth & Sons Co., Bethayres, Pa., is retiring, effective April 1. Mr. Zahn has been with the firm for 43 years. He opened the Southern office with J. Ebert Butterworth, now the president, in 1923, and was named manager of the office in 1936. He will continue to live in Charlotte and will be available to Butterworth in a consulting capacity. His successor has not been named.

Ernest Pfeiffer has joined American Viscose Corp. in its fabric development department as a senior technician in the New York office. Mr. Pfeiffer will work primarily on Avisco Originals and Avisco fabrics in both the apparel and home furnishings fields. A graduate of the Textile Weaving School in Zurich, Switzerland, Mr. Pfeiffer began in textiles as an apprentice in a silk mill. He has been principally connected in the New York market with textile manufacturing, styling and marketing since the early '20s; as a broker and consultant in the early '30s, including a textile factoring concern; and is probably best known as the stylist and technical director of A. D. Juilliard Co., Synthetic Division for nine years; and subsequently as technical assistant to the management of Yale Fabrics Corp. for four years. More recently he was in complete charge of fabric development and technical research of Robbins Mills for five years, prior to the merger with Textron-American. Mr. Pfeiffer joined American Viscose from Amerotron.

Joseph E. Ross has been named leader of the tire yarn section of the research and development division of American Viscose Corp. at Marcus Hook, Pa. Mr. Ross succeeds Dr. Wayne A. Sisson, who is now leader of the cellulose section at the research center. Mr. Ross joined American Viscose in 1954 as head of experimental spinning.

Walter M. Kelly has been elected president of Commercial Factors Corp. He succeeds Johnfritz Achelis, who has been named chairman of the board. Mr. Kelly has been with Commercial since 1953. He was made a director in January 1954, and executive vice-president in June 1955. Mr. Achelis is the third-generation head of the firm, which goes back through a predecessor company, Frederick Vietor & Achelis Inc., to 1928. He joined the organization in 1913, and has been president of Commercial Factors for 22 years.

John E. O'Sullivan has been elected vice-president and treasurer of Indian Head Mills Inc. Mr. O'Sullivan was previously secretary and treasurer of the firm, a post he had held from the company's formation on Feb. 9, 1953. Prior to that he had been associated with Textron Inc., as director of budgeting, controller of Atlantic Parachute Co. and assistant to the executive vice-president. . . . James J. Gavin Jr. has been promoted to the position of controller, and Henry Meyer has been appointed assistant controller.

Dr. Milton Harris has been appointed director of research of the Gillette Co. He continues also as president and active head of Harris Research Laboratories, Washington, D. C., research and development consultant to the textile industry.

Paul P. Watkins has been named attorney and traffic manager of the Georgia-Alabama Textile Traffic Association. He fills the vacancy created by the resignation of Rupert L. Murphy, recently confirmed as a member of the Interstate Commerce Commission. At the same time, it was announced that C. L. Hoffman, who has been with the traffic association for the past 13 years, had been named assistant traffic manager. Mr. Watkins has been associated with the Atlanta Freight Bureau since May 1947. He has had more than 20 years' experience in freight and transportation matters.

Harold E. Abbott has been appointed assistant to the sales manager of Ultra Chemical Works, an associate of Witco Chemical Co. Mr. Abbott has specialized in the sale of textile chemicals for 20 years. He will handle product and sales promotion, as well as special assignments.

William (Bill) Ford has been appointed general manager of the Neisler Mills Division of Massachusetts Mohair Plush Co. Mr. Ford, a native of Fairmont, N. C., will be in charge of all manufacturing for the eight Neisler mills located in Kings Mountain, Shelby, Ellenboro, Double Shoals, N. C., as well as the Mayo and Pageland plants in South Carolina. A graduate of the University of North Carolina, Mr. Ford started his career at the Watts Plant of J. P. Stevens & Co. in Laurens, S. C., as head of the planning department. He left to join Burlington Mills and was stationed in Greensboro, N. C., working on quality control in the company's spun yarn and fabrics line. In In 1941, Mr. Ford went with the Drayton Mills of Deering, Milliken Co. at Spartanburg, S. C. Promoted to production manager, he was later transferred to Laurens (S. C.) Mills of Deering, Milliken Co., where he became general manager and treasurer in complete charge of all operations. Werner Textile Consultants, New York, have been retained to assist Mr. Ford in an ambitious modernization program, which will get under way immediately.

Emil O. Johnson, manager of Du Pont's Seaford, Del., nylon plant, has been promoted to assistant manager of nylon production with headquarters at Wilmington, Del. He will be succeeded by Richard A. Hrabe, who has been assistant manager of the Seaford plant since last May. Hayden M. Pickering Jr., manufacturing superintendent at Seaford, becomes the new assistant manager of the plant. Mr. Johnson has been with Du Pont since his graduation in 1935 from William & Mary, where he received his B.S. in chemistry. He has been manager of the Seaford plant since 1953, and was assistant manager of the company's plant for the manufacture of Dacron polyester fiber at Kinston, N. C., before that time. Mr. Hrabe was manager of Du Pont' rayon plant in Buffalo, N. Y., prior to going to Seaford as assistant manager last year. He is a native of Birmingham, Ala., and attended the Georgia Institute of Technology, receiving his B.S. in chemical engineering in 1935. From 1951 to 1953, Mr. Hrabe was assistant manager at the Old Hickory, Tenn., rayon plant where he began work as a student operator during his college days in 1933.

Stephen I. Rudo, director of research of Werner Textile Consultants, has been elected to membership in the American Society of Mechanical Engineers and its textile division.

N. C. Davenport has been named general superintendent of Aragon (Ga.) Mills, a subsidiary of United Merchants & Manufacturers Inc. Mr. Davenport was formerly superintendent of the company's mills at

Love, Coulter

BUR-MIL FOUNDER RETIRES — Spencer Love, chairman of the board of Burlington Industries, presents an engraved silver tray to William S. Coulter at an informal dinner in Greensboro, N. C., honoring Mr. Coulter on the occasion of his retirement from the Burlington board. One of the original founders of the present-day Burlington organization, Mr. Coulter joined the company in 1923 as its attorney. Known as "Mr. Will" within the company, he was made a director in 1926, secretary in 1937, secretary-treasurer in 1939 and general counsel in 1947. He had previously relinquished all his other duties with the company except that of director, and had submitted his resignation from that post to the board in December.

Bath, S. C., and Brookford, N. C. A graduate of N. C. State College, he previously was associated with Riegel Textile Corp. at Trion, Ga., and the Graniteville Co. at Augusta, Ga. Mr. Davenport succeeds S. A. McCosh, who has resigned. . . . Floyd V. Aiken Sr. has been named general overseer of spinning. Mr. Aiken was transferred from the Seminole Mills, Clearwater, S. C., unit of the company where he had been supervisor in carding, spinning and maintenance since 1928. He is a native of Anderson, S. C. . . . W. A. Pridmore has been named general overseer of weaving and slashing at Aragon. Mr. Pridmore, a native of Greenville, S. C., was formerly overseer of weaving at the Brookford, N. C., and Buffalo, S. C., units of the company. . . . D. Bruton Fitzgerald has assumed the duties of general overseer of the preparation department. A native of Candor, N. C., and a graduate of N. C. State College, Mr. Fitzgerald has been with the company since 1949. Since that time he has held supervisory positions at the company's mills at Statesville, N. C., Augusta, Ga., and Bath, S. C. . . . Albert E. Bowman has been named first shift overseer of spinning. Mr. Bowman was formerly with Arista Mills Co., Winston-Salem, N. C., and Cannon Mills Co. of Kannapolis, N. C. He is a native of Chatooga County, Georgia.

M. Gilbert Hopkins

M. Gilbert Hopkins has been appointed manager of the textile machinery division of Rodney Hunt Machine Co., Orange, Mass. He succeeds A. Robert Connor, who has been appointed to the newly-created post of technical director of the division. Mr. Hopkins has been connected with the textile machinery division since 1938. Since 1949 he has served as sales engineer in the company's Philadelphia, Pa., office, covering the Mid-Atlantic stataes.

E. W. Prendergast has been named regional manager of the Southeast for The Foxboro Co., Foxboro, Mass. Mr. Prendergast, formerly branch manager at Atlanta, Ga., has been with the company since 1947. In his new assignment he directs Foxboro instrument sales activities in Mississippi, Alabama, Georgia, Florida and sections of Arkansas, Tennessee, North Carolina and South Carolina.

Herbert F. Mahoney, Gerald O'Mahony, William C. Privette and Walter Stump have been appointed field development technicians in the dyeing and finishing division of the research and development department of The Chemstrand Corp. Their duties will involve close contact with the dyeing and finishing industry on Acrilan acrylic fiber dyeing projects. Mr. Mahoney was formerly associated with Ramseur (N. C.) Worsted Mills Inc.; Rosemont Dyehouse of Guerin Mills Inc., Woonsocket, R. I.; and M. T. Stevens Co., Franklin, N. H. He is a native of Woburn, Mass., and a graduate of Lowell Technological Institute. . . . Mr. O'Mahony, a native of Drodheda, Ireland, worked with the following firms before joining Chemstrand: Drescotts, Dublin, Ireland; Barrymore Cloth, Toronto, Canada; and Fred Whitaker, Philadelphia, Pa. He attended college in Ireland and also received a certificate for completion of a special course in the theories of dyeing at the Philadelphia Textile Institute. . . . Mr. Privette was formerly associated with Sovelco Mills, Winston-Salem, N. C.; Copland Converting & Finishing Co., Burlington, N. C.; and Burlington Industries at Greensboro, N. C., Dublin, Va., and Altavista, Va. A native of Statesville, N. C., he is a graduate of New Bedford Institute of Textiles & Technology. . . . Mr. Stump, a native of Basel, Switzerland, was formerly associated with Burlington Industries, Greensboro; American Viscose Corp., New York City; and Huguet Fabrics Corp.

Boyce C. Bond, inventor of the Bond continuous dyeing and scouring machine, has resigned his position with Pittsburgh Coke & Chemical Co. to join Koppers Co. Inc. He reportedly will continue in full charge of his machine, its patent and design, and will work directly with a Southern textile machinery firm which will take over building the machine.

Victor J. Kremers has joined the textile fibers department, Carbide and Carbon Chemicals Co., a division of Union Carbide & Carbon Corporation, as a technical representative on Dynel. Mr. Kremers, who will be located in New York, has been connected with various phases of the textile industry during his business career. From 1936 until he joined the Army in 1939, Mr. Kremers was associated with Hudson Plush Co., Paterson, N. J. After World War II he founded and became president of Vicwin Textile Co., Paterson, producer of cotton scatter rugs. In 1952 he sold this business and joined Tillinghast-Stiles, Philadelphia, Pa. A year later he moved to New York to join United Yarn Products Co., where he remained until his new association with Union Carbide.

W. G. Terry has been promoted from vice-president to executive vice-president of Old Dominion Box Co. and will move his office from Lynchburg, Va., to the company's headquarters at Charlotte, N. C. Mr. Terry, who succeeds Ernest T. McCorkle, resigned, has been with Old Dominion since 1928 and was purchasing agent for several years. He has been vice-president and director of the budget since 1941.

B. R. Jernigan, treasurer of Dyersburg (Tenn.) Cotton Products Inc., has been reelected vice-president of the Tennessee Manufacturers Association.

Prof. James Giblin has been promoted to dean of the faculty of New Bedford (Mass.) Institute of Textiles and Technology. Professor Giblin, who continues as professor of textile engineering, succeeds Francis Tripp, who has resigned in order to devote full-time to his positions as professor of chemistry and director of research.

Gordon D. Williams will soon take over duties as assistant superintendent of the Dwight Division of Cone Mills Corp. at Alabama City, Ala. A native of Deer Lodge, Mont., Mr. Williams is a graduate of the Wharton School of Finance of the University of Pennsylvania. He is the son-in-law of **E. O. Fitzsimons**, executive vice-president of the Carded Yarn Association.

Charles L. Harding Jr. has been elected a director of C.I.T. Financial Corp. Mr. Harding is president of the old-line factoring firm of Meinhard & Co. Inc., an operating subsidiary of C.I.T. On the C.I.T. board, he succeeds Fred Meissner, who continues as board chairman of Meinhard. Mr. Harding joined Meinhard in 1936 as a new business representative. He was named an assistant vice-president in 1941, a vice-president in 1946, and president in 1953. Prior to joining Meinhard, he was associated with various mills of his father's textile firm, Harding-Tilton.

R. G. Perriello

Robert G. Perriello has been appointed Southern district sales manager for Warwick Chemical Co., a division of Sun Chemical Corp., Long Island City, N. Y. He will direct the activities of Warwick's representatives in the South and will manage the company's Rock Hill, S. C., plant. Mr. Perriello was formerly assistant to the general sales manager in charge of new product development and sales procedures. He will make his headquarters in Rock Hill.

R. P. Wilson has been appointed special assistant to W. D. Clark, general sales manager of the textile division of Celanese Corp. of America. Mr. Wilson, a native of Chesterfield, S. C., received his B.S. degree in textile engineering at Clemson College in 1948. He joined Celanese in 1954 as a salesman in the Charlotte, N. C., district office.

James Parrish has been appointed superintendent of Mackintosh Spinning Mill Inc., Clover, S. C.

Mrs. T. G. Shelton has been named president of Paola Cotton Mills Inc., Statesville, N. C. Mrs. Shelton succeeds the late L. N. Mills Sr. Other officers elected include Mrs. T. G. Fawcett of Mt. Airy, N. C., and Mrs. L. N. Mills Sr., Statesville, vice-presidents; and A. L. Mills Jr., secretary-treasurer and general manager. New members of the board are Van G. Stauber, Garland Shelton, John Munday and L. N. Mills Jr., all of Statesville, and Garnett Fawcett of Mt. Airy.

Wren Cardwell has been promoted to production supervisor and overseer of card printing at the Unity Plant of Callaway Mills Co., La Grange, Ga. Mr. Cardwell joined Callaway in 1939, and after service in the Navy during World War II became second hand in the screen printing and production department at Unity.

Mrs. Ida C. Ayres of the Norwood, N. C., branch of Collins & Aikman Corp., has been installed as chairman of Southern Piedmont Safety Council. Other officers of the council include W. L. Brightwell, Johnston Mfg. Co., Charlotte, N. C., vice-chairman; J. M. Monroe of Cannon Mills Co. at Salisbury, N. C., secretary; and R. W. Lane of Union Asbestos & Rubber Co., Marshville, N. C., treasurer.

John R. Patton has been named district sales manager in Atlanta, Ga., for National Electric Products Corp. Mr. Patton joined the firm in 1947 at Charlotte, N. C., where he served in the sales office. Prior to his promotion he was in charge of marketing throughout Florida.

A. A. Hobbs of Charlotte, N. C., has been elected a vice-president of Rex Mills Inc., Ranlo, N. C., and the firm's title of general manager has been transferred from Alfred S. Robinson to H. D. Whitener. Mr. Hobbs has been with the company about a year. Mr. Robinson, who had been treasurer and general manager, continues as treasurer. Mr. Whitener, who had been vice-president and general superintendent, is now vice-president and general manager.

Henry P. Neisler has accepted a position with The Randolph Mills Inc. of Concord, N. C. Mr. Neisler is in charge of fabric developing and designing, a position similar to the one he formerly held at Neisler Mills Inc., Kings Mountain, N. C.

Nelson Kessell, general superintendent of Firestone Textiles Inc., Gastonia, N. C., is currently on a trip to Bombay, India, and other overseas points in the interest of the company. Firestone has a subsidiary tire plant in Bombay and Mr. Kessell will be there several months in an advisory capacity on tire fabrics. He will return via Spain to visit another Firestone tire plant and affiliate there. Mrs. Kessell is accompanying him on the trip.

John Francis has been promoted to superintendent of the C shift at Chatham Mfg. Co., Elkin, N. C. He succeeds H. H. (Bud) Barker, who has been appointed assistant head of quality control. Mr. Francis has been with the company since 1982. . . . Grover Hanes has succeeded Johnny Francis in carding and spinning as acting quality man.

A. C. (Sam) Daniel has been named assistant purchasing agent for raw materials for Fieldcrest Mills Inc., Spray, N. C. He succeeds George W. Sneed Jr., who has been promoted to a new position in the company's domestic sales department. Mr. Daniel, a native of Columbia, S. C., has been associated with Pacific Mills in its cotton purchasing department for the past 15 years. He is well known in national tennis circles, having held the singles championship of South Carolina for 14 years. Transferred to North Carolina by Pacific this past year, he at present holds the singles title for the state of North Carolina.

Carl J. Beaver, secretary and treasurer of China Grove (N. C.) Cotton Mills Co. since 1937, has been elected president of the company. He succeeds the late A. L. Brown of Kannapolis, N. C. Mr. Beaver hsa been with the company since 1925, when he started as bookkeeper and office manager. He was elected assistant secretary and a director in 1934. . . . John H. Rutledge Jr., who had been vice-president and assistant secretary, succeeds Mr. Beaver as secretary-treasurer. W. F. Denning, a director, has been named a vice-president. J. Carlyle Rutledge was elected a director, filling the vacancy created by Mr. Brown's death in December.

Alan B. Sibley, vice-president of Judson Mills, Greenville, S. C., has been named to supervise the former Amerotron Corp. synthetic fabrics plant at Machias, Me., which was sold recently to Deering, Milliken & Co. According to Roger Milliken, the plant, which employs 100, will be operated as before, with its products sold through Deering, Milliken.

Henry J. Williams, assistant controller of M. Lowenstein & Sons, has been named controller of three subsidiaries added by the firm recently when it bought the cotton operations of Pacific Mills Inc. The subsidiaries are Pacific Columbia Mills, Columbia, S. C.; Lyman (S. C.) Printing & Finishing Co.; and Pacific Mills Fabrics Inc., New York selling office.

OBITUARIES

William J. Armfield III, 49, president of Madison Throwing Co., with plants at Madison, and Bellemont, N. C., died recently in Greensboro, N. C. Mr. Armfield had been president of Madison since 1947. Prior to that he had been with Burlington Mills from 1938 to 1946. He was named general manager and vice-president of Burlington's hosiery division in 1945. At one time he was president of Randolph Underwear Co., Randleman, N. C. Surviving are his widow, a son, a daughter, his father, three sisters and three brothers.

William Bass Black, 57, retired textile mill superintendent of Gastonia, N. C., died recently in Gastonia.

Arch Cash, 85, retired secretary-treasurer of the old Springfield Woolen Mills, Knoxville, Tenn., died recently in Knoxville. He had been in retirement since 1935. Survivors include his widow and two brothers.

John F. Degener Jr., 86, partner in C. A. Auffmordt & Co., factor, New York, N. Y., died recently in New York. Mr. Degener spent his entire business career with the factoring firm and had been a partner more than 50 years. He is survived by a son, John F. III, and a brother, Paul A., both partners in the company.

James Conrad Hill, 54, secretary and assistant treasurer of Brown Mfg. Co., Concord, N. C., died recently in Concord. He is survived by his widow, two daughters and two sisters.

Norman Brant Hill, 67, founder and retired president of Hill Spinning Co., Roseboro, N. C., died recently in Roseboro. Prior to coming to Roseboro some 20 years ago, Mr. Hill had been general manager of Cashwell Mills, Kinston, N. C., for 21 years. He leaves his widow, a daughter, an adopted son, two sisters and a brother.

Col. Blake Ragsdale van Leer, president of Georgia Institute of Technology since 1944, died Jan. 23. His widow survives.

Kenneth MacKenzie, 63, assistant manager of the Charlotte, N. C., branch of National Aniline, a division of Allied Chemical & Dye Corp., died Jan. 23 at Charlotte. A native of Taunton, Mass., and a graduate of Bradford-Durfee Textile Institute, Fall River, Mass., Mr. MacKenzie had been assistant manager of the Charlotte branch of National Aniline since 1925. Prior to that he was professor of textile chemistry and dyeing at North Carolina State College from 1922 to 1925. His widow, a son and a sister survive.

W. M. Reed, 63, founder and chairman of the board of the American Air Filter Co. Inc., Louisville, Ky., died at his Winter home in Ft. Lauderdale, Fla., Feb. 2. Mr. Reed recently moved from the presidency of American Air Filter to the newly-created post of chairman of the board, retiring from active direction of the company.

Clarence Eugene Rich, 49, superintendent of A. Schottland Inc., Rocky Mount, N. C., died recently.

W. M. Sherard, 87, former president of Green River Mills Inc., Tuxedo, N. C., and former president of the Southern Textile Association, died recently. Mr. Sherard, who headed the S.T.A. in 1915-16, started his textile career as a card room worker. From that job he rose in successive steps to assistant superintendent of Courtney Mfg. Co., superintendent of Jackson Mills at Iva, S. C., vice-president and general manager of Glen Lowery Mills of Whitmire, S. C., and president of Green River Mills.

John H. S. Spencer, 60, vice-president of H. W. Butterworth & Sons Co., Bethayres, Pa., died Jan. 26. Mr. Spencer had been with the firm many years. At one time he was in charge of the Butterworth foundry, which no longer exists. He had retired from active participation in the firm due to ill health last Spring, but had remained an officer. Surviving are his widow, a daughter and a son.

James F. Thompson, 55, general manager of The Hilton-Davis Chemical Co., died Jan. 18 at Cincinnati, Ohio. Mr. Thompson joined the company in 1923, and was named vice-president in charge of production in 1942. He was elected general manager in 1949. His widow, two sons and two sisters survive.

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MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

Roxboro, N. C.—The entire school facilities of nearby Ca-Vel, N. C., including buildings and grounds, have been donated to the Person County Board of Education by Collins & Aikman Corp., which has one of its plants in that community. The school facilities are valued at $140,000. The school was built and completely equipped by Collins & Aikman in 1931. The company continued to aid the school by supplying books, heat, nursing service, supplies and paying salaries of two teachers. The school was administered by the Person County Board of Education, just as were all other schools in the county. The outright donation of the school building and property giving title to the Board of Education will make possible the use of more state and federal funds for the school, a company spokesman points out, but it will not lessen the company's interest or support of its activities.

Whitney, S. C.—A $200,000 expansion program is in various stages of completion and planning at Indian Head Mills Inc., here, according to James E. Robison, president. An addition of several thousand feet has been completed and construction on another smaller addition is now under way. The program also includes the installation of additional dyeing and finishing equipment, including a wide high-speed tenter frame and finishing range, a wide Sanforizing machine and calenders. Equipment is being installed to enable the plant to produce various types of crease-resistant, washable, water-repellent and other types of novelty weaves and finishes. The plant will not only finish the fabrics for Pequot brand sheets and pillowcases, but will also do commission finishing for the converting trade. As a result of the expansion program, the plant will have a finishing capacity of two to three million square yards weekly. Daniel Construction Co. of Greenville, S. C., has also begun construction of a new greige room and storage facility which will be completed soon.

Greenville, S. C.—A $1,500,000 modernization program which was recently undertaken is nearing completion by three Greenville area plants of J. P. Stevens & Co. Inc. The Monaghan Plant in Greenville is modernizing its weaving equipment and air conditioning its spinning room. The total cost of these two projects will approach $1,100,000. The Greer Plant at Greer is nearing completion of its new warehouse space, built at a cost of about $100,000. The Victor Plant, also at Greer, is in the process of modernizing its preparatory equipment and installing overhead cleaning on spinning, involving some $300,000.

Cooleemee, N. C.—The cotton mill of Erwin Mills Inc., here, reached a million man-hours without a lost-time accident on Dec. 12, according to C. W. Howell, manager. The mill won the safety award in 1954 in a contest among the mills in the Erwin chain with a frequency of 2.11 accidents per million man-hours worked, awarded on the basis of 1,419,340 hours worked that year. The year 1955 was completed with a frequency of approximately 1.25.

Johnston, S. C.—The 160,000-square-foot plant being constructed here for Riegel Textile Corp. should be in full operation by mid-April, according to management. The plant will manufacture diapers, pillowcases and infants' wear and ultimately will employ about 500. Training classes are being conducted now.

Thomaston, Ga.—The Peerless Division of Thomaston Mills has won the company's Plant Safety Award for the second consecutive year, with a record of one man-hour lost to 4,542 man-hours worked. In second place was the Thomaston Division, with one man-hour lost to 3,480 man-hours worked.

Montgomery, Ala.—Tallassee Mills, Tallassee, winner of the 1954 Alabama Textile Safety contest in the weaving and spinning division, repeated its excellent performance last year to emerge as winner of the 1955 contest. Placing second and third, respectively, in the same division were Goodyear Decatur Mills, Decatur, and Geneva Cotton Mills, Geneva. First place winner in the spinning mill division was The Linen Thread Co. Inc. of Blue Mountain. Second and third place winners were Gurney Mfg. Co., Prattville, and Adelaide Mills, Anniston. The six winners will be honored at the annual convention of the Alabama Cotton Manufacturers Association in Biloxi, Miss., April 12-13. Trophies will be awarded Tallassee and Linen Thread.

Stonewall, Miss.—The Stonewall Division of Erwin Mills Inc. held its 25-Year Club banquet Feb. 4, honoring employees with a 25 or more years of service. The banquet, held in Quitman, Miss., was addressed by Lt.-Gov. Carroll Gartin of the State of Mississippi. John C. King, superintendent, presented 25-year pins to employees who had completed that length of service during the past year.

Greenville, S. C.—Union Bleachery has formed a new department, filtration and by-products, with J. H. Blakley Jr. as supervisor. Activities of the new department include the filter plant and all water reservoirs, the stream pollution abatement program and all by-products, including the caustic recovery system and salvage.

Gaffney, S. C.—Derry Damask Mill Inc. is spending approximately $250,000 on a modernization project which will nearly double plant capacity for production of bedspreads. The firm is replacing its 41 old jacquard looms and adding eight more. In a change in its sales plan, the company is setting up its own organization and discontinuing services of the former selling agent, Wilbury Sales Corp., New York.

Greensboro, N. C.—Cone Mills Corp. is undergoing a reshuffling of production which will result in the moving of some looms from Greensboro plants and a reduction in the local work force. Involved are Revolution Rayon, Proximity and White Oak Plants here. Production is being curtailed sharply at Revolution Rayon, with some looms moved to the Haynes Plant in Avondale, N. C., and the Eno Plant in Hillsboro, N. C., where they will be used on other fabrics. The White Oak Plant has moved from a four to a five-day week, producing denims. Proximity, on a four-day week, is expected to go to five days presently as its looms are taken off denim and put on other fabrics. According to Ceasar Cone, company president, the changes are being made to get production in line with current demands.

Anderson, S. C.—Equinox Mill is installing ten new Whitin Machine Works Superflex spinning frames of 266 spindles each. Some of the 4½-inch gauge and 11-inch traverse frames will have 2¼-inch rings, others 2½-inch rings. Other features include Unitrol center suspension and top rolls, Pneumafil and PneumaClear creels. They will be used for spinning warp yarns. Equinox, of which Andrew B. Calhoun is president and general manager, is a subsidiary of West Point (Ga.) Mfg. Co.

Charlotte, N. C.—Johnston Mfg. Co., here, has completed a spinning room modernization program with the installation of Pneumafil central air systems on all spinning frames, totaling more than 20,000 spindles. Card room modernization included the installation of Pneumastop equipment on the entire roving operation.

Anderson, S. C.—Toxaway Corp., a wholly-owned subsidiary of Abney Mills, has exercised its option and has purchased the properties which Abney has been leasing from Textron American Inc. The plants are Toxaway, Ladlassie, Riverside, Southside and Gossett. The combined properties have 75,000 spindles and 1,600 looms, and employ some 1,600 people. The purchase brings to 17 the number of Abney plants in South Carolina. The Gossett plant is a finishing plant which bleaches and dyes cotton cloths; Toxaway produces print cloths; Ladlassie makes spun rayon yarns; Riverside turns out cotton and spun rayon yarns; and Southside produces rayon suiting and cotton draperies.

Barnwell, S. C.—Dedication ceremonies marking the opening of the Amerotron Corp. woolen mill, here, have been scheduled. The plant, to be known as Barnwell Woolen Mills, is completely integrated, with spinning, weaving, dyeing and finishing under one roof. Construction is of the modern, windowless type, air conditioned throughout. The opening ceremonies also marked the first anniversary of the three-way merger of American Woolen Co., Textron Inc. and Robbins Mills Inc., forming Textron-American Inc.

Rock Hill, S. C.—Highland Park Mfg. Co. is adding 120 Draper looms to its No. 2 mill here, according to T. W. Church Jr., executive vice-president of the company.

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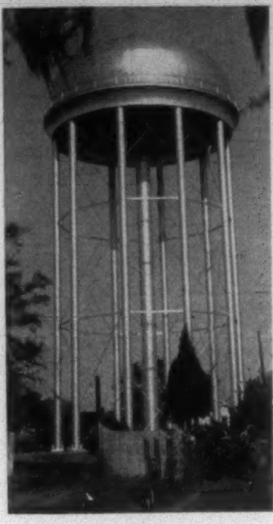

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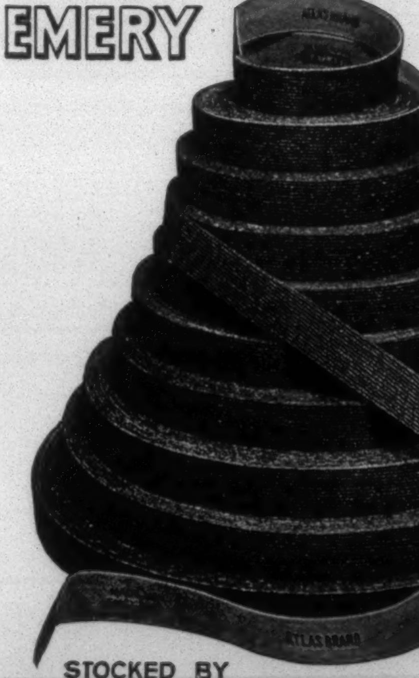

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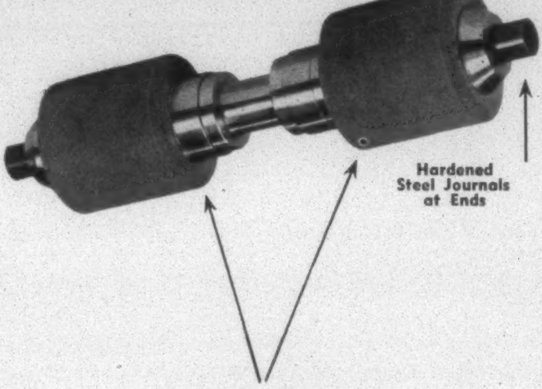

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A HANDBOOK OF TWISTING

By NEAL TRUSLOW, Superintendent of Product Development, United States Rubber Co., Winnsboro, S. C.

— Chapter Seven, Part 2 (Effect of Twist on Appearance) —

A TWISTED yarn has a tendency to untwist in order to relieve the strains on the fibers. To demonstrate one method in which a yarn can relieve the twisting strains, the two ends of a yarn can be brought together and the yarn will twist about itself. If the strand is examined closely before and after it has twisted on itself, it will be noticed that it will twist in such a direction that the individual fibers become more parallel to the axis of the strand. This axis refers to the composite structure built up by both of the segments that are twisting about each other. If the fibers are originally inclined in the "Z" direction (such as is the case with a "Z" spun singles yarn), the two segments will twist about each other in the "S" direction and vice versa. The reason for the segments tending to twist about each other is that they try to arrange themselves in a helical configuration which reduces the twist in the individual segments and thereby reduces the strains in the fibers.

In addition to the effect on the *direction* of twisting, the initial twist can affect the *amount* of twisting that the two segments will do about each other. The more tightly the single strand is initially twisted, the greater is its tendency to untwist. Also, if it is twisting about itself, the more tightly the single strand is initially twisted the more turns of twist will be found in the composite structure. Thus, the amount and direction of the initial twist affects (1) the direction of the helix that the strand tends to assume, (2) the vigor with which the strand tries to assume this helix and (3) the tightness of the helix which it tries to assume.

The tendency of a yarn to untwist is measured by the torque it exerts. If the yarn is considered to be a uniform rod, the classical formula for torque can be applied:

$$T = D^4 a K \qquad (4)$$

where T = torque, D = yarn diameter, a = helix angle and K a constant which changes for different materials.

The diameter is inversely proportional to the square root of the cotton count yarn number, so that

$$D = \frac{C}{\sqrt{N}} \qquad (5)$$

Also the helix angle is directly proportional to the turns per inch which is the product of the twist multiple and the square root of the yarn number, so that

$$A = KM\sqrt{N} \qquad (6)$$

Substituting (5) and (6) in (4) we have

$$T = \frac{MK}{N^{1.5}} \qquad (7)$$

When actual tests are made, it is found that this theoretical formula gives fairly accurate results, particularly for filament yarns. For spun yarns like cotton and wool, where the diameter decreases as the twist is increased, more accurate results are usually obtained if the simple first power of N is used rather than the 1.5 power.

A complicating factor in the use of this formula is the relaxation of torque that starts as soon as a material is twisted. This relaxation phenomenon is a complicated situation dealing with intermolecular forces, and as such is outside the scope of this work. It will be adequate to state that heat is the usual method of relaxing and thereby setting the twist for thermoplastic materials like nylon and Dacron, while wetting followed by drying is the usual method for hydrophyllic materials like viscose rayon and wool. Even after the twists have been ostensibly set, it is possible for the torque to be reactivated by use of higher temperatures or swelling agents including water.

An example of how this torque was found to vary is given in the following history. A 150-denier, 40-filament, normal tenacity viscose rayon filament was twisted up to a 14 twist multiple and it was found that over this range the torque was directly proportional to the number of turns inserted in the yarn. For each turn of twist, this amounted to 0.0070 centimeter grams of torque. After several hours ageing in a standard atmosphere, a nearly constant value was reached: 0.0045 cm. gm. When this yarn was immersed in water, it fell to 0.0033 cm. gm. and then when dried, it fell still further to 0.0010 cm. gm. When rewetted, the torque again increased to 0.0032 cm. gm.

These concepts are widely used for the production of a number of different types of attractive fabrics. A thorough understanding of the manner in which the torque affects the yarn can help in obtaining the particular effect which is desired and can help prevent some of the undesirable side effects. One of the simplest techniques for utilizing the torque effects is in the production of goods with a loop pile, such as bullion fringes, uncut moquette or loop-pile rugs, and zybelline overcoating fabrics. With these materials, it is commonly desired that the loops twist on themselves to produce a fabric with better wearing characteristics as well as a better appearance. In order to do this effectively with singles yarns, a 3 to 4 twist multiple should be used. For ply yarns, the singles twist is kept low and the ply twist multiple is normally in the opposite direction and about 2 higher than the singles. Thus, if the singles twist multiple was 3.5 "Z," the ply twist multiple would be about 5.5 "S" in order to get the ply yarn to twist about itself effectively in the finished fabric.

An interesting example of the exploitation of unbalanced twist is found in the use of candle wicks. If these yarns are made of balanced twist yarns, the wick will stand straight up as the candle burns and this produces a tall and smoky flame. However, if the twist is unbalanced, as the candle burns, the wick will bend over and its end is continually consumed in the outer and hotter envelope of the flame.

It is not only in pile fabrics that the torque effect can be utilized to obtain fabrics with an attractive appearance.

Many types of flat woven crepe fabrics use this technique. These fabrics are usually woven at least in part from high twist yarns which have a marked tendency to untwist. Since the interlacing with the other yarns prevents them from untwisting, the yarns acquire as much of a helical configuration as possible in order to relieve the strains imposed on the fibers by twisting. It is this helical configuration which the yarns tend to go to which accounts for the characteristic uneven or pebbly surface of crepe fabrics.

In order to understand how the pebble structure develops, let us first consider a warp of yarns before they are woven. Assume for a moment that all of these yarns are twisted in the same "Z" direction. Then all of the yarns would have a slight tendency to untwist in the clockwise direction. If some of the warp sizing in this example sticks adjacent yarns together, the entire warp would tend to "untwist" or curl in the same direction as the individual yarns. In this example, the southeast and the northwest corner would turn down and the southwest and northeast corner would turn up.

The manner in which the untwisting torque of the yarns is translated into fabric curl is the source of the pebble structure in crepes. However, in crepe fabrics it is not enough to simply use high twist yarns. Instead, the yarns must be arranged so that the fabric will curl first in one direction and then in the other. One method by which this can be done is by arranging the warp with alternate "S" and "Z" twist yarns. It will be realized that the filling can also have an untwisting torque which will result in producing fabric curl, but in a direction that is opposite to that of the warp. Thus, the curl induced by a "Z" warp will be resisted by a "Z" filling and augmented by an "S" filling.

With crepe fabrics, a cotton count twist multiple of 7.5 is used with viscose, 6 to 7 with wool or silk and 5.5 to 6.5 with cotton yarns. Examples of these types of fabrics are as follows:

Crepe de Chine—This is made of fine silk yarns in a plain weave. The warp is normal twist with a sley of about 400 ends per inch. The filling is about 70 picks per inch using 2 picks of "S" crepe twist alternated with 2 picks of "Z" crepe twist. The fabric has a dull luster and a tiny pebble texture.

Georgette crepe—This is made from 2 or 3 thread silk, 2/100 wool or 70-denier viscose yarns in a plain weave. Both the warp and the filling have the "2 and 2" arrangement of "S" and "Z" twist yarns. This fabric is similar to Crepe de Chine but is somewhat crisper in handle due to the use of more of the high twist yarns.

Elephant crepe—The yarns and weave are the same as for the Georgette crepe but the arrangement is alternated 8 "S" and 8 "Z" for both warp and filling to produce large puckers and a gross pebbled surface.

Sand crepe—A popular version of this fabric is produced from a combination of acetate and viscose rayon yarns woven in a fancy crepe weave. Yarn A is made of 150-denier fila-

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ment acetate with a 3.5 "S" twist multiple (21 t.p.i.). Yarn B is plied from one end of 120-denier acetate with a 1.0 "Z" T.M. (manufacturer's twist) and one end of 100-denier viscose with a 7.5 "Z" twist multiple (55 t.p.i.). A ply twist multiple of 4.4 "S" (20 t.p.i.) is used. The warp is arranged 1 "Z" and 1 "B"; the filling is arranged 2 "A" and 2 "B" yarns.

Mock Romaine crepe—This plain weave fabric has a porous dull texture which lends itself to certain types of lingerie. The warp is a ply construction of one end of 150-denier acetate with a 1.0 "Z" T.M. (manufacturer's twist) and one end of 100-denier viscose with a 7.5 T.M. (55 t.p.i.). This is then plied to obtain "twist on twist" and with a 3.3 ply T.M. (20 t.p.i.). The warp is arranged with this ply yarn 1 "S" and 1 "Z." The filling is 300-denier acetate filament with a 4.2 "Z" T.M. (18 t.p.i.).

It will be noticed that in all of the above fabrics, the twist in one set of yarns offsets the twist in another set of yarns so that a type of balance is achieved. This is necessary in order to avoid fabric curl. When this curl becomes severe, it can lead to trouble at the garment cutting tables and can also produce a fabric which will wrinkle easily. Fabrics have been produced from spun rayon fabrics in which a hard twist was used and with the warp twisted in the "Z" direction while the filling was twisted in the "S" direction. When this fabric was exposed to varying room humidities, the unopposed torque of the yarns would cause the fabric to wrinkle while lying flat on a table!

The twist in the warp can be balanced against the twist in the filling even with variations in yarn size and twist multiples. This can be done by equating the torque effect of the combined warp yarns with the combined filling yarns. By putting equation (7) in the form of a proportion and by correcting for the number of ends and picks per inch, this condition must exist for freedom from curl:

$$\frac{E_w \times M_w}{N_w} = \frac{E_f \times M_f}{N_f} \qquad (8)$$

where the w and f subscripts refer to warp and filling, respectively, E refers to the threads per inch, M refers to the cotton count twist multiple, and N refers to the cotton count yarn size. It should be noted that when this formula is used for designing filament fabrics with a high twist, N should be raised to the 1.5 power.

The above formula indicates how to use the twist in one set of yarns in order to compensate for another set of yarns. This is not always possible. An example of this is in certain types of rib fabrics and particularly a fabric known as crepe faile suplime. This material must use fine low twist, filament yarns in the warp in order to obtain the high luster and good cover that is wanted for an outerwear fabric. In contrast to the warp, the filling is composed of heavy yarns which must have a very hard twist in order to produce a prominent round rib at each pick. In order to prevent curl in a fabric of this type, the filling yarns themselves must be smooth and balanced and this is achieved by using a 3-ply yarn with a 5.0 twist multiple in both the singles and the ply.

A minor but interesting aspect of the torque effect is found in certain fibers. A majority of natural fibers grow in such a manner that there are spiral elements within the fiber. In some fibers like cotton, there is a periodic change in the direction of the spiral, while in others, there is a marked dominance of one spiral direction over the other with some classes of fibers tending to be "S" spiral and some classes tending to be "Z" spiral. When the fibers which have a dominant spiral direction are immersed in water, they can be observed to twist in a direction opposite to that in their spiral formation. On drying, they untwist so that the fiber end rotates in the same direction as the spiral element. This effect is undoubtedly due to the radial swelling of the fiber when it becomes wet and the swelling increases the helix angle. Then the fiber tends to untwist in order to relieve its internal strains. It is not known of what practical importance this phenomenon may be other than to aid in identifying certain fibers. However, it is conceivable that a better textile product might be produced if the singles strand made of these fibers were twisted in a direction opposite to the spiral in the fiber. In this manner, any variations in humidity that tend to cause the fiber to untwist in one direction would be cancelled by the strand tending to untwist in the opposite direction. The following table illustrates the twists suggested for four commercially important fibers:

Material	Jute & Hemp	Flax & Ramie
Direction of spiral	"Z"	"S"
Direction of spin	"S"	"Z"

The torque effect due to twist in yarns is found in knitgoods also. If a tightly twisted unbalanced yarn is used, it will be found that the wales of the knitted fabric (in a jersey or rib stitch) have a marked tendency to "spiral" or form a helix. This is usually undesirable because a neat appearance is wanted with an essentially straight wale in the fabric. This tendency is, of course, due to the effort that the yarns make to relieve the stresses in the fibers.

It is not generally realized that the tendency of knitgoods to curl at the free or cut edge is also due to this torque effect. However, this curling is noticeable and objectionable even when the fabric is knitted from zero twist filament yarns, but not when the fabric is knitted from a thermoplastic fiber like nylon and is subsequently heat set. The explanation for this curl is connected with the twist that is put into the various segments of the loop structure as it is knitted. The tortuous path of the yarn in the loop causes it to twist first in one direction and then in the other. However, each twisted segment tends to react so as to curl the fabric in the same direction and therefore the torque effects are additive and do not balance out each other. The curling forces are activated when the fabric is strained. For instance, if a piece of jersey knitgoods using "Z" spun yarns is strained in the direction parallel to the wales, it will curl concave to the courses, and if it is strained in the direction parallel to the courses, it will curl concave to the wales. Using alternate courses of "Z" and "S" spun yarns will reverse the direction of curl but will not alleviate it.

The fact that the twist is altered by the knitting is easily seen in the case of certain covered yarns, such as elastic thread. If a minimum of covering is wrapped around the rubber core, when the yarn is untwisted the core can be seen. The core cannot be seen when the yarn is twisted tighter. When such a yarn is knitted into a jersey fabric, it is possible to see the rubber on one side of the knitted loop but not on the other side.

The twisted used in yarns can affect the appearance of goods after they are worn or used because of the effect that twist has on wrinkle recovery or general deformation. The effect that twist balance has in reducing curl, and therefore improving wrinkle recovery, has already been discussed.

The optimum tightness of twist also has an influence on wrinkle recovery.

For the exact tightness of the twist, it seems unlikely that satisfactory quantitative data can be developed, but certain general facts are known. With very soft twist yarns, fabrics can be made even from fibers like cotton (which are quite prone to wrinkle) and these fabrics will shed their wrinkles in a remarkably short time. The drawback of such fabrics is that they are so limp that they will also shed their press in a short time. At the other end of the scale, it is possible to make a fabric with a very hard twist which will hold a press very well, but which will also hold in any wrinkles. Between these two extremes, there appears to be a wide range of twists which do not show a great deal of difference in wrinkle recovery and press retention. Here is a particular case where inadequate information is now available and the solution to the problem is dependent to a large degree on improved testing techniques. Any data that is obtained on the effect that twist has on wrinkle recovery is obscured by the effects of the fabric weave, but a general theory that has wide support has been built up. This theory states that wrinkle recovery and press retention are dependent on the ability of the fibers to release any imposed strains. With loosely woven and loosely twisted yarns, the individual fibers can easily move so as to escape from an applied force or to straighten out when the force is removed, and this action can take place with pressed creases as well as wrinkles. On the other hand, with tightly woven and tightly twisted yarns, the applied force causes a rearrangement of the fibers and this rearrangement becomes fixed simply because the adjacent fibers lock the strained fibers into their new positions.

In flat woven fabrics that are lightweight and have open weaves, it appears that the crepe constructions which have high twists give the best balance of wrinkle recovery and crease retention. In heavier fabrics like Winter suitings, much better results are obtained with medium twists.

Twist affects the retention of appearance of pile goods as well as flat weaves. An example of this effect is found in rugs and floor covering where crush resistance is a much desired characteristic. As these materials are walked on, they are pressed down and deformed. The twist that is used can have a pronounced effect on the recovery of the tufts from this deformation. In the case of loop pile fabrics, a ply structure is desirable from the standpoint of initial uniform appearance and good wear, as well as crush resistance. The optimum singles twist for a wide variety of fibers and yarn sizes used in loop pile fabrics is close to a 3.0 twist multiple, and the optimum ply twist is about a 5.0 twist multiple. This selection of twists causes the loops to twist about themselves and thereby to produce a large, upright, resilient member. If lower twist multiples are used, such as a 3.0 x 3.0, it is found that better cover is obtained, but the pile is quickly flattened out when it is walked on, although it is true that the pile can be easily raised again

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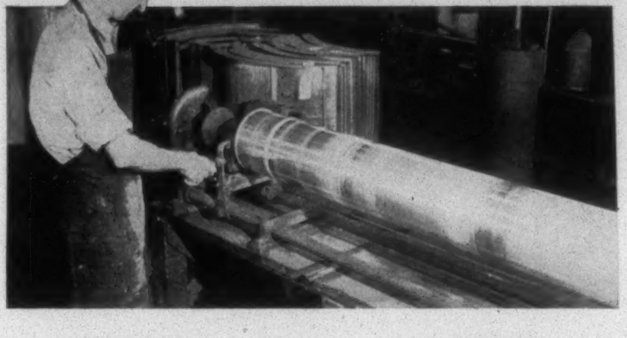

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by brushing or vacuuming. In contrast to this, if high twist multiples like 4.5 x 6.5 are used, it is found that the pile is very resistant to crushing, but this advantage is offset by the fact that when the pile is finally flattened, it is almost impossible to raise the pile by normal cleaning procedures used in the home. Apparently with the high twists, the frictional binding of the fibers is sufficiently high to lock them together so that they will strongly resist changing their relative positions when they are either in the upright tuft or the flattened tuft.

When cut pile products are tested, it is found that the proper twist can be selected so as to resist crushing them as well as the loop pile. In the cut pile, it is found that for many fibers such as eight-denier viscose, heat-set nylon and wool, a remarkable amount of both the single and the ply twist will stay in the tufts during both the finishing operations and subsequent wear. Several tests indicate that the amount of ply twist retained in these cut tufts is dependent on the singles and ply twist multiples with the best retention obtained when the ply twist multiple is slightly in excess of the singles twist multiple. For several types of cut pile, it is found that good twist retention is obtained with a twist multiple of 4.0 for the singles and 4.1 for the ply. When these tufts are deformed by a longitudinal compression, such as is obtained when they are walked on, the ply twist tends to act like a helical spring so that the compressive forces are distributed over an appreciable fiber length which reduces the average strain on the fibers. Therefore, with this type of twisted structure, the pile can more easily regain its initial appearance and therefore it resists crushing.

A.T.M.A. Holds Annual Meet

W. Frank Lowell, senior vice-president of Saco-Lowell Shops, Boston, Mass., was re-elected president of the American Textile Machinery Association at its 23rd annual meeting held at Boston Feb. 2. Also re-elected for second terms were Vice-President James H. Hunter, vice-president of James Hunter Machine Co., North Adams, Mass.; and Assistant to the President Gorham Brigham, secretary-treasurer of Saco-Lowell Shops. Samuel F. Rockwell, president-treasurer of Davis & Furber Machine Co., North Andover, Mass., was re-elected treasurer for the 24th consecutive term. Mr. Rockwell has held this office without a break since the association was founded. Two new directors were named to the board, P. Kay Schwartz, president of Proctor & Schwartz Inc., Philadelphia, Penn., and Myron S. Curtis, engineering vice-president, The Warner & Swasey Co., Cleveland, Ohio.

Other board members re-elected (in addition to Messrs. Lowell, Hunter and Rockwell) were: Roy G. Ross, vice-president, Barber-Colman Co., Rockford, Ill.; J. Ebert Butterworth, president, H. W. Butterworth & Sons Co., Bethayres, Pa.; Frederick W. Howe Jr., president, Crompton & Knowles Loom Works, Worcester, Mass.; Thomas H. West, president, Draper Corp., Hopedale, Mass.; Robert Leeson, president, Universal Winding Co., Providence, R. I.; and J. Hugh Bolton, president, Whitin Machine Works, Whitinsville, Mass. Mrs. Mildred Andrews continues as executive secretary.

In his address to the meeting, President W Frank Lowell reported that A.T.M.A. has successfully broadened its activities during the past year to render greater service to its membership. He paid high tribute to the "volunteer workers" of the association who served on what he termed unofficial committees to work out industrywide problems. "Without the time and effort given our industry by some of our busy executives, A.T.M.A. could not have attained the headway it has made this last year. They are leaders in every sense of the word," he said.

W. Frank Lowell

Gorham Brigham

James H. Hunter

Myron S. Curtis

P. K. Schwartz

Samuel F. Rockwell

"Reviewing the past 12 months we know that some real progress has been made in our government relations," he said. "One gain along this line is the adoption by some government officials of the business man's philosophy of productivity and efficiency of operation of textile machinery, rather than that of initial cost, as a trading policy in offshore procurement programs. This is the only realistic approach in purchases of capital equipment no matter where or for what country it is bought," he said. He pointed out that textile mills of the U. S., when purchasing new machinery, are giving more thought to a new yardstick for capital expenditures based upon reduction in manufacturing cost and upgrading of quality through modernization rather than the old bench mark of return on investment.

Mr. Lowell told the membership the A.T.M.A. office is now geared to meet any association emergency. "We are gratified that many firms in our association have called upon our A.T.M.A. office for special assistance and counsel in some of their individual company problems. Those that have enjoyed these special counselling services on various matters report that the results were more than satisfactory," he said. "Among the outstanding constructive activities of A.T.M.A.," he said, "are those concerned with textile education." The need for highly trained textile graduate is more acute than ever in the face of the many technological and economic changes brought about through the use of modern machinery. He cited the co-operation between A.T.M.A. and the National Council of Textile Education as a means of meeting this problem, and he gave as one example of gaining better understanding between machine builders and textile educators the inauguration of Textile Education and Machinery Day (TEAM DAY) by the North Carolina State College School of Textiles when A.T.M.A. was given a day at the school and a citation for industry leadership.

Summing up the year-end business review of the industry, he said that general conditions have improved, that many firms entered the new year with better backlogs of orders than in several years. He stressed that textile machinery manufacturers will be able to take care of any foreseeable demand that may come from textile mill expansion or modernization programs created by the closing gap between textile production and sales.

T.R.I. Announces Program For Annual Meet

Latest strides in textile research and development, outlined by the industry's top executives and scientists, will spark the 26th annual meeting of Textile Research Institute of Princeton, N. J. at the Hotel Commodore, New York City, on Thursday and Friday, March 22 and 23, according to Dr. John H. Dillon, institute director. He noted that the conference should be highly interesting because the program contained not only scientific papers but talks on consumer marketing problems and industrial fabrics.

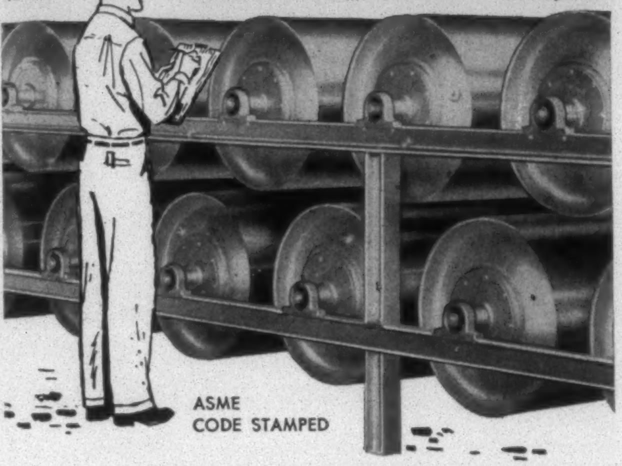
The program for the two-day parley, which has been arranged by Charles S. Fowler, chairman of the meeting and institute trustee, will be as follows: The Thursday morning and afternoon sessions under the chairmanship of Dr. Arnold Lippert, vice-president, chemical, research and product division, Joseph Bancroft & Sons Co., Wilmington, Del., will be devoted to a symposium on "Minimum Care Fabrics." It will be opened by a presentation on "General Principles from the Consumer Viewpoint" by Dr. Jules Labarthe, senior fellow, Mellon Institute, Pittsburgh, Pa. Dr. Paul Stamm, assistant director of research, Dan River Mills, Danville, Va., will speak on cotton; and viscose rayon will be covered by T. R. Scott, textile research department, American Enka Corp., Enka, N. C.

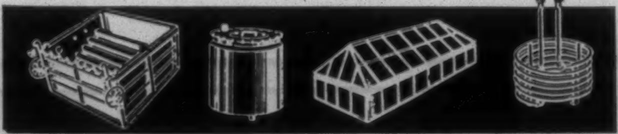
Dr. Dillon is to preside at Thursday's luncheon and will introduce the guest speaker, Dean Malcolm E. Campbell, School of Textiles, North Carolina State College, Raleigh, N. C. There will also be greetings from Geoffrey Loasby, chairman of council of The Textile Institute, Manchester, England. The afternoon session on Thursday will continue the symposium on "Minimum Care Fabrics." Wool will be discussed by Dr. Gerald Laxer, director of science and technology, The Wool Bureau Inc., New York City, while the hydrophobics will be analyzed by Dr. R. W. Peterson, director of textile and industrial products research division, E. I. du Pont de Nemours & Co. Inc., Wilmington, Del.

The program for Friday is: "T.R.I. Research in 1955," by Dr. Helmut Wakeham, director of research, Textile Research Institute; "Predetermination of Consumer Desires," by Dilman K. Smith, vice-president, Opinion Research Corp., Princeton, N. J.; "Industrial Fabrics," by Stuart H. Sherman, development manager, textile division, United States Rubber Co., Winnsboro, S. C.; and "New Approaches to the Stabilization of Fabrics," by Dr. Walter J. Hamburger, director, and Dr. Kenneth R. Fox, associate director, Fabric Research Laboratories, Dedham, Mass.

Chairman of the Friday morning program will be Richard D. Wells, director of research, Bates Mfg. Co., Lewiston, Me. Chairman of the afternoon session will be Dr. Norman S. Grace, general manager, Dunlop Research Centre, Dunlop Rubber Co., Toronto, Canada. Presiding at the Friday luncheon will be the Institute's President, Sydney M. Cone Jr., who will speak on "The State of the Institute." Mr. Cone will introduce the guest speaker, Herman D. Ruhm, president, Burlington Industries Inc., New York City, who is to chart "New Problems for Textile Research."

The meeting will also feature displays and exhibits of the latest in textile testing equipment and process and product control instrumentation. These are to be set up in the West Ballroom, adjacent to the meeting room and will be available to the general public on both days from 9 a.m. until





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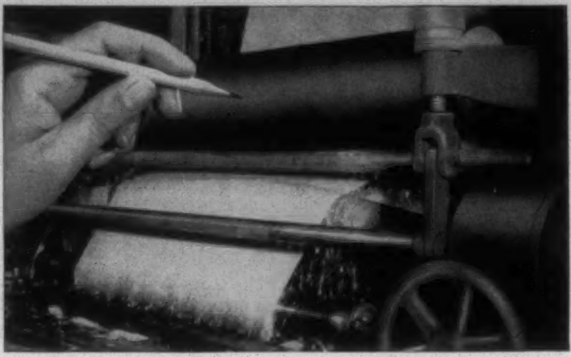

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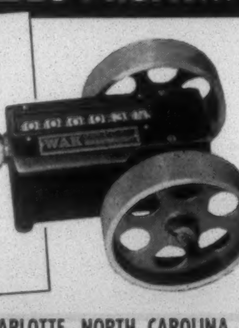

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5 p.m. The institute's annual meetings are open to all interested in research and development in the textile industry. Registration fee for the meeting is $8 and luncheon tickets will be available for $5 on each day. Advance reservations may be made by writing to the institute's secretary, Princeton, N. J.

Textile Finishers Hold Annual Meet

J. Marshall Cole was elected president of the National Association of Finishers of Textile Fabrics at its 42nd annual meeting held recently in New York. Mr. Cole is vice-president of Cold Spring Bleachery, Yardley, Pa. He succeeds Walter R. Howell of Bradford Dyeing Association, Westerly, R. I., who was elected chairman of the executive committee. Lawrence Marx Jr. of Clearwater (S. C.) Finishing Co., and George E. Sinkinson of Sayles Finishing Plants, Saylesville, R. I., were elected vice-presidents. Joseph E. Hoesl, association secretary, was re-elected as treasurer.

Sydney M. Cone Jr., Cone Finishing Co., Greensboro, N. C. was presented with an engraved silver tray in recognition of his services to the association. Mr. Cone completed serving two years as chairman of the executive committee and two years as president of the association.

In his message to the association, the retiring president, Walter R. Howell, said: "What 1956 holds for business in general and textiles in particular is a big question and I shall not attempt to forecast. Many prominent men are optimistic on both counts. I, personally, have reservations but they will not interfere with my efforts to make our own business profitable even though we have already felt a decided falling-off in greige goods' receipts and processing orders. We know greige mills are well sold ahead and our customers are waiting for color assortments against orders already booked. These must be coming along quickly now. My main reservation about optimism for 1956 concerns employment. The influx of Japanese goods, if not stopped, will definitely hurt all textile employment."

The secretary, Joseph E. Hoesl, in his summary of conditions in the industry in 1955 stated: "The cotton finishing industry kept pace with booming economic conditions in 1955 and expanded its production to a new peak of 7.8 billion yards of bleached, dyed or printed cotton goods finished. This represents a gain of almost seven per cent over 7.3 billion yards finished in 1954, according to estimates based on data compiled by the association. The previous high point was recorded in 1953 when a volume of 7.6 billion yards were processed. Production of cotton prints continued its upward climb for the fifth consecutive year to a new peak of 2.1 billion yards, over 11 per cent above the 1.9 billion yards of cotton prints produced in 1954. White goods processed last year amounted to 3.3 billion yards, a gain of three per cent, whereas plain dyed cotton fabrics showed a gain of seven per cent to an estimated total of 2.4 billion yards. Production of white goods in 1955 is estimated to be nine per cent under volume produced in 1947—the highest post-war year—whereas plain dyed cotton fabrics were only four per cent under the high point achieved in the year 1953."

"The ability of these figures to describe adequately the growth of the cotton finishing industry is severely limited to measuring the yardage volume produced. They do not reveal advances in the more important function of textile finishing plants, that is, the developments made in recent years in dyeing and finishing technology which have upgraded the product by improving its appearance, utility and launderability. Today, cotton finishers through co-operative efforts with the chemical industry, have progressed to a point that the finishing process is now considered the main step in the production of salable, income-producing cotton fabrics.

"One of the most important of these advances is the resin-type crease-resistant finish with its 'completely washable and little or no ironing' features. This finish has played an important role in the growing demand for finished cotton fabrics and is expected to continue to be an important factor in maintaining the high level of production achieved in 1955. To assist in the promotion of this type of finish, the association has arranged for a group of technicians from its membership to volunteer their services to a garment manufacturers group to sit on its panel discussions to investigate the merits of resin-type crease-resistant finishes with 'minimum care' characteristics. Although the industry is still faced with important technological problems which remain to be solved, it can take pride in its achievements to date which have done much to develop plus volume in the cotton goods markets."

Elected at the annual meeting to serve as members of the executive committee were Robert Amory, Springs Cotton Mills, Grace (S. C.) Bleachery: Robert Bendheim, Rock Hill (S. C.) Printing & Finishing Co.; E. R. Farrell, Mansfield (Mass.) Bleachery; James Harrell, Delta Finishing Co., a division of J. P. Stevens & Co., Wallace, S. C.; Homer Carter, Pepperell (Ala.) Mfg. Co.; Gordon Coles, Fairforest Co., finishing division, Spartanburg, S. C.; Royce N. Pharr, USF-Aspinook Division of Gera Corp., Norwich, Conn.; William Reid, Riegel Textile Corp., Ware Shoals, S. C.; Chas N. Robertson III, Robertson Bleachery & Dye Works, New Milford, Conn.; G. S. Rockefeller, Cranston (R. I.) Print Works; John Ward, Bellman Brook Bleachery, Fairview, N. J.; Richard Wood, Jr., Millville (N. J.) Mfg. Co.; Arthur G. Poor, Standard Bleachery & Printing Co., Carlton Hill, N. J.; Walter R. Howell, Bradford Dyeing Association, Westerly, R. I.; Julian Robertson, North Carolina Finishing Co., Salisbury, N. C. In addition the following members continue to serve unexpired terms on the executive committee: Sydney M. Cone Jr., Cone Finishing Co., Greensboro, N. C.; W. R. MacIntyre, Joseph Bancroft & Sons Co., Wilmington, Del.; and W. O. Forssell, Slatersville (R. I.) Finishing Co., a division of Kendall Mills.

Spinner-Breeder Conference, March 7-8

Details for the forthcoming cotton Spinner-Breeder Conference have been announced by George B. Walker, Stoneville, Miss., chairman of the Delta Council committee sponsoring the meeting. The industry-wide gathering will be held at Charlotte, N. C., on March 7 and 8. The American Cotton Manufacturers Institute and the Combed Yarn Spinners Association are hosts for the meeting. Conference headquarters will be the Hotel Charlotte, with sessions beginning at 9:30 a.m., March 7, in the Chelsea Room.

Program highlights will include discussions of "Cotton Properties Needed to Meet Competition," "Cotton Breeding Work in the U. S.," "Qualities of Cotton Consumed in the U. S.," "An Analysis of the 1955 Cotton Crop," "Advance in Textile Machinery and Changes Prompted by New Machines and Processes," and "Significance of Fiber Properties and the Need for Development in the Field of Instrumenta-

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tion." Discussions will be led by experts from the various branches of the U. S. Department of Agriculture, industry, agriculture and education. Malcolm E. Campbell, dean, School of Textiles, North Carolina State College, Raleigh, N. C., will preside at the session on March 8.

In addition to the discussions, guests at the conference will be taken on a tour of modern mills in the afternoon of March 7. Open house for those attending the meeting will be held at the Gastonia Country Club during the early evening, with the Combed Yarn Spinners Association acting as host.

A.C.M.I. Tax Forum Set For March 2

Tax matters pertaining to business operations will be discussed at a tax forum in Charlotte, N. C., March 2, sponsored by the American Cotton Manufacturers Institute. E. M. Fuller, Greenwood Mills Inc., New York City, chairman of the institute's tax committee, will preside over the session, which will open at 9 a.m. March 2 at the Barringer Hotel. An attendance of about 100 representatives of textile mills of the country is expected. Richard B. Barker and other members of the tax firm of Ivins, Phillips and Barker of Washington, D. C., will speak and also will lead discussions on various tax subjects.

A. G. Scroggie To Receive Medal From A.S.T.M.

Committee D-13 on Textile Materials of the American Society for Testing Materials will present the Harold De Witt Smith Memorial Medal to Dr. Arthur G. Scroggie of E. I. du Pont de Nemours & Co., Inc. The presentation will be made at a ceremony on Thursday, March 15, during the Spring meeting of Committee D-13, March 13 to 16, at the Hotel Warwick, New York City.

The medal is a testimonial to the memory of the late Harold De Witt Smith who pioneered in the concept of an engineering approach to the evaluation of the properties of textile fibers and to their utilization. It was endowed by Fabric Research Laboratories Inc., Boston, and is awarded at intervals of not less than one year by Committee D-13 for outstanding achievement in research on fibers and their utilization. This is the seventh time the medal has been awarded.

Dr. Scroggie, who received his Ph.D. degree in chemistry from the University of Illinois in 1928, is manager of the characterization laboratory of the textile and industrial products research division of the Du Pont textile fibers department, Wilmington, Delaware. He joined the company in 1928 and for several years was supervisor of analytical research in the rayon research division.

Dr. Scroggie's career has been marked by membership and active participation in scientific and technical organizations. He served on the governing council of the Fiber Society and was president in 1951. He has had a long and distinguished service with the American Society for Testing Materials. He served as vice-chairman of Committee D-13 for two terms from 1944 to 1948. For a period of over 200 years he was chairman of the D-13 subcommittee on definitions and nomenclature, during which time many improvements and additions were made in this widely-used standard. Dr. Scroggie has taken a very active part in the work of the American Standards Association and in the technical committee on textiles of the International Standards Organization. He was a member of the American delegation which attended two plenary conferences in England and one in the United States. He is Chairman of the D-13 subcommittee having the immediate responsibility for the A.S.T.M. participation in the work of this international committee.

Dr. Scroggie has been a very active member of a large number of subcommittees and task groups of Committee D-13 since joining the committee in 1928. He is a charter member of A.S.T.M. Committee E-11 on Quality Control of Materials which was organized in 1946. Also, he has served as the representative of Committee D-13 on Committee E-8 on Nomenclature and Definitions and Committee D-23 on Cellulose. Dr. Scroggie is a member of the A.S.T.M. committee for the co-ordination of industry and government textile standards. He is the author of many technical papers.

Previous recipients of the medal have been: Dr. John H. Dillon, director, Textile Research Institute, Princeton, N. J.; Dr. Herbert F. Schiefer, physicist, textile section, National Bureau of Standards, Washington, D. C.; Prof. Edward R. Schwarz, head, textile division, Massachusetts Institute of Technology, Cambridge; Dr. Frederic Bonnet, former consultant and technical advisor to the president, American Viscose Corp., Marcus Hook, Pa.; Prof. Herbert J. Ball, formerly head, department of engineering, Lowell (Mass.) Technological Institute; and A. Griffin Ashcroft, former vice-president and director of research, Alexander Smith Inc., Yonkers, N. Y.

Textile Deans To Meet March 19-21

The Spring meeting of the National Council for Textile Education will be held March 19-21, according to Dr. L. H. Hance, president of the council, and president of the Institute of Textile Technology, Charlottesville, Va. The textile school deans who comprise the council will be the guests of the Celanese Corp. of America, at its laboratories at Summit, N. J.

Cotton Council Backs Textile Import Quotas

The National Cotton Council, at its annual meeting Jan. 30-31 in Biloxi, Miss., voted unanimously to join with the American Cotton Manufacturers Institute and other cotton groups in seeking action to limit imports of foreign textiles and apparel into the United States. The delegates also approved a recommendation that the council seek appropriate governmental action to dispose of surplus cotton stocks competitively at world prices and to re-establish and maintain traditional export markets for U. S. cotton and cotton textiles. The action on selling surplus cotton at competitive prices is a change in the historical position of the council, which has stayed away from price action since its organization 17 years ago.

The delegates also voted support of legislation aimed at improving the balance between supply and demand of various qualities of cotton by basing the support level on the average quality of the crop and adjusting loan differentials to reflect true market relationship as between individual qualities. This action would change the base from seven-eighths to one inch. The provision was made that such action would not have the effect of reducing the loan values for cotton for 1956 below the level already authorized by law.

The import recommendation would limit foreign imports to "a reasonable amount to prevent a serious detrimental effect on the U. S. cotton industry. The action was taken, it was explained, in recognition of the fact that the U. S. textile industry is the largest and most dependable outlet for American cotton.

The question of council action on import limitations and surplus sales at competitive prices had come before the council several times during the previous year, each time the directors voting not to take action. Some opposition was expected at the meeting, but it turned out that not a single dissenting vote was cast.

In another unanimous vote, the members voiced their support of the industrywide committee on the future of the National Cotton Council's proposal to expand the council's program of quality improvement, cost reduction and sales promotion. At the same time, they approved increasing dues of the six segments of the cotton industry to finance the expanded operations. Effective Aug. 1, 1957, the council's finance plan will be increased as follows: producer and ginner segments, 20 cents a bale; compress-warehouse, one cent a bale; merchant, three cents a bale; spinner, ten cents a bale; and crusher, seven and one-half cents a ton. For most segments this represents a doubling of the dues formerly paid. It was estimated that on the present basis this would provide more than $3 million annually to support the council's expanded program.

In an election of officers, Francis J. Beatty, cotton warehouseman of Charlotte, N. C., was named president of the council to succeed W. T. Wynn, Greenville, Miss., who was elevated to chairman of the board of directors. Mr. Beatty has been active in the work of the council since the early days of the organization. He assisted in the formation of the council's North Carolina-Virginia unit of which he was the first chairman. In 1955 he was named as a member of the council's industrywide committee which reappraised cotton's needs and opportunities. Re-elected vice-presidents were L. T. Barringer, Memphis, Tenn., cotton merchant; H. L. Wingate, Georgia Farm Bureau, Macon, Ga., producer; B. L. Anderson, Fort Worth, Tex., warehouseman; and Aubrey L. Lockett, Vernon, Tex. W. M. Rhea Blake, Memphis, Tenn., was re-elected executive vice-president and secretary.

Among the members of the new board of directors are the following spinners: A. K. Winget, American & Efird Mills Inc., Albemarle, N. C.; F. W. Symmes, Piedmont Plush Mills, Greenville, S. C.; Charles C. Hertwig, Bibb Mfg. Co., Macon Ga.; J. Craig Smith, Avondale Mills, Sylacauga, Ala.; and A. B. Emmert, Dan River Mills, Danville, Va.

Some 1,200 members attended the meeting, held at the Buena Vista Hotel, Biloxi. The next convention is scheduled for Jan. 28-29, 1957, at St. Louis, Mo.

Vinyl Fabrics Described To Plastics Society

Three times around the world is the mileage of vinyl fabric sales in 1955, E. G. Hamway, director of research of the Textileather Division of The General Tire & Rubber Co., Toledo, Ohio, said recently at the 12th annual technical conference of the Society of Plastics Engineers in Cleveland.

Mr. Hamway pointed out that more than 120,000,000 yards of vinyl fabrics were sold by the industry with a dollar value exceeding $100,000,000. A great share of the production was utilized by the automotive, furniture, luggage and book-binding industries for end products. In his discussion of the materials and techniques used in the

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manufacture of vinyl fabrics, Mr. Hamway said the continued growth of the industry is dependent on four factors: (1) ingenuity of chemists, engineers, production men and stylists within the industry; (2) continual education of the consumer and industrial user to prevent misapplication of the product; (3) maintaining high quality standards; and (4) development of improved raw materials.

Construction of a sound coated fabric can be narrowed to a two-step proposition, Mr. Hamway told the engineers. The selection of the proper base material is the first step and the choice of the right coating compound is the second. Elaborating on the two steps, it was pointed out that fabrics can be classified into three broad groups: woven, knitted and non-woven. The fabrics or fibers may be treated or untreated, bleached, and/or dyed before the coating operation. At present, woven, namely cotton, accounts for the greatest yardage, but Mr. Hamway said there is a significant trend toward knitted and non-woven backings for upholstery applications. He cited the development of Nygen Tolex by Textileather and pointed out its advantages. Textileather is licensing other coaters in this country and abroad for the production of this new material, he added.

In discussing coating compounds, Mr. Hamway confined his remarks to vinyls and pyroxylin coatings and gave descriptions of the methods of application to the base material. Vinyls can generally be used on all fabrics while pyroxylins are used on woven materials. Either of the materials can be applied to the base by knife or roller coating. The solid content of pyroxylin coatings varies, depending on the method employed, while vinyl coatings may be applied in solution form or as a dispersion. The bulk of vinyl coating, Mr. Hamway said, applied by either knife or roller, are dispersion coatings with the dispersion being in the form of an organosol, plastisol or latex. To keep reject rate low, a control of flow properties is essential. An extrusion rheometer is used for determining the proper viscosity and flow properties for high-speed coating operations which range from 20 to 50 yards per minute. To assure good coatings, Mr. Hamway added that design of the coating knife is an important factor.

Another popular vinyl coating technique in the industry, he pointed out, is the lamination of vinyl films to fabrics. This is accomplished by either the wet or dry method. In the dry method, the vinyl film is calendered on a four-roll calender and laminated by heat and pressure to the fabric at the calender or elsewhere in the plant. Sometimes special bond coats are used to improve adhesion to the base fabric. In the wet method, the film is applied by reverse roll coater to a metal belt or special casting paper and then fused to the material at 350 to 400° F. The fabric can be laminated to the film at any point in the operation. Mr. Hamway also discussed production steps that add the prints, grains and patterns which stylize the vinyl fabrics for use in a myriad of end products.

1955 Rayon And Acetate Summary

Production of rayon and acetate in the U. S. during 1955 totaled 1,260,700,000 pounds, an increase of 16 per cent compared to 1954 and only 2.5 per cent under the all-time production record of 1,294,200,000 pounds in 1951, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau Inc. Producers' shipments last year were 1,200,000 pounds greater than production and, as a result, producers' stocks declined by a similar amount to a year-end total of 86,400,000 pounds.

Preliminary estimates by the *Organon* reveal that world production of rayon and acetate yarn and staple last year amounted to 5,000,000,000 pounds, a new record high. World output in 1955 topped that of the previous year by about 11 per cent. The figures indicate that world output of rayon and acetate staple+tow continues to increase more rapidly than that of filament yarn. In 1945 staple+tow output wat 504,000,000 pounds and by the end of 1955 it had risen to 2,700,000,000 pounds, or five and one-half times over the ten year period. In the same period, filament yarn production increased from 902,000,000 pounds to 2,300,000,000 pounds, or two and one-half times. The 1955 world staple+tow figure is a new record, the *Organon* points out, exceeding that of the previous year by 9.5 per cent. The latest filament yarn figure is also a new record, exceeding the previous high in 1951 by 8.25 per cent.

The *Organon* notes that, while the U. S. increase in filament yarn production was more rapid than the trend in the rest of the world, the staple+tow increase here did not keep pace with the output for the world as a whole. Consequently, U. S. staple production decreased slightly to 14.6 per cent of the world total in 1955 while the filament yarn percentage increased to 37.6 per cent.

Total U. S. production of all man-made fibers in 1955 was at an all-time high, according to the *Organon*. Output amounted to 1,718,000,000 pounds, a gain of 20 per cent compared to 1954 and 14.5 per cent greater than the previous record year's output in 1951. Output of non-cellulosic plus textile glass fibers reached a figure of 457,500,000 pounds last year, a new record and a gain of 33 per cent over 1954.

Analyzing the U. S. supply situation, the *Organon* notes that the total available supply of rayon and acetate in 1955 was 1,520,600,000 pounds, a gain of 21 per cent compared with 1954 and also nine per cent more than the previous record of 1,398,200,000 pounds in 1951. The 1955 poundage consisted of domestic production of 1,260,700,000 pounds as noted, plus producers' beginning stock of 87,600,000 pounds and estimated imports of 172,300,000 pounds.

Actual staple fiber imports in the first 11 months of 1955 amounted to 162,653,000 pounds, according to the *Organon*. In recent months, these imports of rayon staple have been coming into the U. S. at a somewhat lower rate than in the first half of the year.

The most important supplier of rayon staple to the U. S. during the January-November period was Western Germany, which accounted for 20.5 per cent of the total. Other major suppliers were France which supplied 14.5 per cent of the total, the United Kingdom 14 per cent, Italy 12.5 per cent, Belgium and Norway 8.5 per cent each, Switzerland six per cent, Austria 5.5 per cent, Sweden five per cent, Cuba four per cent and all others one per cent.

United States production of high tenacity rayon yarn in 1955 was 432,700,000 pounds, a gain of 27.5 per cent over 1954. Regular+intermediate tenacity rayon yarn production reached 202,300,000 pounds, a gain of 19 per cent over the previous year; acetate yarn 230,100,000 pounds a gain of 16.5 per cent; and total rayon+acetate yarn 865,100,000 pounds, a gain of 22.5 per cent.

Production of rayon staple+tow last year totaled 337,800,000 pounds, up 8.5 per cent compared with 1954.

Assuming that the great bulk of staple imports were rayon, the *Organon* estimates that the total rayon staple+tow available for domestic use last year was 507,800,000 pounds, exceeding by 37.5 per cent the previous record of 368,700,000 pounds available in 1954. The acetate staple+tow available for use in 1955 was 54,100,000 pounds, 15.5 per cent less than the corresponding 1954 figure of 64,100,000 pounds.

The *Organon* estimates that the total staple+tow production last year was 395,600,000 pounds, a gain of 4.5 per cent over 1954, and the total amount available to U. S. consumers was 501,600,000 pounds. This is figured on the basis of 395,600,000 pounds production, plus imports of 170,000,000 pounds, less producers' exports of 4,000,000 pounds. The total staple+tow available therefore was 30 per cent greater than in the previous year.

Analyzing yarn shipments by trades, the *Organon* reveals that in 1955 tires and related uses received an increase of 82,500,000 pounds over the previous year, a gain of 24.5 per cent; textile yarn consumers received 54,100,000 pounds more than in 1954, a gain of 14 per cent. Exports rose by 3,600,000 pounds, a gain of 38 per cent. Within the textile uses, only the hosiery industry takings were unchanged from the previous year. On the other hand, circular knitgoods took 22 per cent more in 1955 than in 1954: warp knit goods 29.5 per cent more; broad woven goods 9.5 per cent more; narrow woven goods 23 per cent more; and miscellaneous uses, 38.5 per cent more. In 1955, hosiery took one per cent of total shipments of textile rayon+acetate filament yarn; circular knitgoods six per cent; warp knit goods, 8.5 per cent; broad woven goods 73 per cent; narrow woven goods 3.5 per cent; and miscellaneous uses eight per cent.

The *Organon* points out that, except for broad woven goods and warp knit goods where acetate yarn is the predominant fiber, the use of rayon continues to be substantially larger than acetate in the textile trades. Thus rayon's share of rayon+acetate shipments to the various textile trades in 1955 and 1954 were as follows: hosiery 65 per cent and 67.5 per cent; circular knitgoods 93 per cent and 95.5 per cent; warp knit goods 17 per cent and 16.5 per cent; broad woven goods 45 per cent and 43 per cent; narrow woven goods 96.5 per cent and 96 per cent; and miscellaneous uses 76.5 per cent and 88 per cent.

From another angle, 64 per cent of the domestic rayon textile shipments last year were made to broad weavers which compares with 67 per cent in 1954. The next largest users, and their 1955 and 1954 percentages of takings respectively, were: miscellaneous uses 12 per cent and 11.5 per cent; circular knitters 11 per cent and 11 per cent; and all other uses 11 per cent and 10.5 per cent. Corresponding percentages of total acetate yarn shipments to domestic consumers in 1955 and 1954 were: broad weavers 80.5 per cent and 85 per cent; warp knitters 14 per cent and 12 per cent; and all other users 5.5 per cent and three per cent.

The Piedmont area, which consists of North and South Carolina, Virgina and West Virginia, continues to be by far the largest market for rayon and acetate shipments, according to the Organon. In 1955 38 per cent of all domestic yarn shipments went to the Piedmont area compared with 40 per cent in 1954. The other territories, and their respective 1954 and 1955 percentages of total domestic shipments, were the South (consisting of Oklahoma, Arkansas, Kentucky, Georgia and south) 19.5 per cent and 22 per cent; Pennsylvania and Ohio 20 per cent and 19.5 per cent; New

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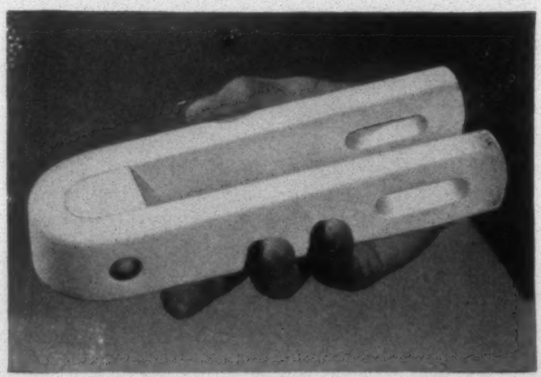

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England 11.5 per cent and 11.5 per cent; Metropolitan (New York State and New Jersey) eight per cent and eight per cent, and Midwest and West one per cent and one per cent.

It should be noted, however, according to the *Organon,* that the South is the most important consumer of rayon yarn for tires and related uses, taking 39 per cent of the 1955 total. Closely following are the Piedmont with 31 per cent and Pennsylvania and Ohio with 28 per cent. For textile types of yarn, the Piedmont is the most important consumer of regular+intermediate tenacity rayon with 36 per cent of the total, and following in importance were New England with 29 per cent, Metropolitan with 16 per cent, Pennsylvania and Ohio nine per cent, South eight per cent and Midwest and West two per cent. For acetate yarn, the Piedmont is by far the largest consumer with 54 per cent of all the 1955 domestic sales. New England took 15.5 per cent, of total acetate yarns, Pennsylvania and Ohio 14.5 per cent, Metropolitan 11 per cent, South four per cent and Midwest and West one per cent.

Army To Buy For All Services

The U. S. Department of Defense has announced that the Army will be designated as the single manager purchasing agent for all the services. The department's directive laid down the master plan for creating single manager programs for all items commonly used by the services, but has not yet put the change into effect. Specific directives will be issued at a later date to put each individual plan into effect.

Although the single manager supply system for clothing and textiles has been under consideration for some time, the announcement of its adoption at this time caught many procurement officials somewhat by surprise. Some Navy and Marine Corps procurement officials feel that since the specific order giving the assignment to the Army has not been issued yet it may be a long time in coming. Others believe that the directives will come along on schedule now that the policy has been decreed.

Just what effect the new policy will have on the Quartermaster Corps is not known. A lot of study will be required, it is believed, before the Quartermaster Corps can take on the added duties. A Navy spokesman has pointed out that while the Army will do the buying, the individual services will still set their own specifications and submit their requirements in each case. The Army already buys most of the clothing requirements for the Air Force, with the system working out satisfactorily for both services.

QM Depot Defends Procurement Procedures

A lengthy reply to a report containing criticisms of procurement procedures has been made by the Philadelphia Quartermaster Depot and the QM Inspection Service Command. The report was compiled from responses to a questionnaire sent to Quartermaster contractors. The method of presenting specifications was defended by the QM depot, stating that although there have been conflicts over interpretation, every effort is being made to assure they are written in such a manner that permits only one interpretation.

The fact that the lines of control have been shortened, resulting in more periodic visits to the plants by supervisory personnel, may be the cause of any complaints concerning the alleged "severity" of inspection, the depot pointed out. "Better pay also would tend to relieve contractor pressure on inspectors. Better pay would demand better talent and possibly the number of technically skilled individuals required for our present needs could be recruited. The QM Corps., however, gears its inspection methods to mobilization organization and requirements. The talent we would like in our inspectors would not be available in the quality required for a greatly expanded procurement program," the depot stated.

In the future, the depot said, pre-award surveys will include evaluation of contractors' quality control systems, since many companies have an inadequate inspection system and rely upon the government for minimum acceptable quality. Deviations and defects in an item exceeding the acceptance quality level, must be rejected by the item provisionally, subject to direction from the contracting officer. The inspectors have been instructed to give the contractor the benefit of the doubt on judgement of defects. The tightening up of inspection, which includes closer supervision of the inspector, has caused them to be more careful in their duties.

The requirement for packaging end items before inspection may be costly, as indicated by the report. However, this is the only method of insuring proper packaging and packing of acceptable items. Proper inspection by the contractor would minimize any risk of having a completely packed shipment rejected. This contract requirement will be studied by the QM. An attempt is being made to shorten the length of time between bid opening and the awarding of contracts by the screening out of all bidders who cannot perform in accordance with government requirements.

Celanese Official Briefs Army On Synthetics

Research and development programs conducted by the nation's synthetic yarn manufacturers have given the military services many new and improved fabrics and webbings, William O'Donovan, vice-president, textile division, Celanese Corp. of America, told Army officers attending the recent Quartermaster Officers' Commodity Course at the Quartermaster School, Fort Lee, Va.

"Many of these improved fabrics and webbings are made from yarns that were not even in existence 20 years ago," Mr. O'Donovan said. Acetate, rayon and nylon are now basic fibers for military use, the Celanese official said, and the newer acrylics, polyesters and present-day improved yarns of cellulosic origin also show promise of excellent military performance. He attributed the improved clothing and equipment resulting from the use of these new fibers to the co-ordinated efforts of the military research program and the facilities of U. S. synthetic yarn manufacturers.

As a case in point, Mr. O'Donovan showed samples of a new lightweight, low elongation webbing recently developed by the Quartermaster Corps for the supporting framework of Army tents. These webbings utilize saponified acetate stuffer yarns and are capable of absorbing very large loads with only slight elongation. The webbing samples shown by Mr. O'Donovan were made of Fortisan, the super-strong rayon yarn made from saponified acetate and manufactured by Celanese.

"The advantages of this low elongation-type webbing for Army tents," Mr. O'Donovan said, "stem from the fact that it permits use of lighter weight canvas—for which, of course, the cotton goods industry has great capacity—to be stitched to the webbing. This makes possible improved portability, as well as a decrease in storage and packing space." Citing the quartermaster research and development command's detailed testing of new items before writing performance specifications on them, Mr. O'Donovan said that three years will have elapsed between the time Celanese first started working on the Fortisan low elongation webbing and the Army's initial procurement, scheduled for some time this Spring. The Celanese official was one of four speakers—two from industry and two from the Quartermaster General's office—who addressed the 54 officers attending the ten-week long commodity course at the Quartermaster School.

Carded Sales Yarn Backlogs Rise

Carded cotton sales yarn spinners began 1956 operations with their sold-ahead position representing about three months' production at the current rate, the Textile Information Service reports.

On Jan. 7, unfilled orders on spinners' books amounted to 12.03 weeks' production and were 9.35 times stocks on hand. This compares with unfilled orders on Dec. 3 equal to 11.65 weeks' output and 11.20 times stocks. On Jan. 8 last year, unfilled orders amounted to 8.86 weeks' production and were 5.16 times stocks on hand.

Spinners' inventories, including yarn made for future deliveries against unfilled orders, amounted to 1.29 weeks' production on Jan. 7. On Dec. 3, stocks equalled 1.04 weeks' output and on Jan. 8, 1955, they amounted to 1.72 weeks' production.

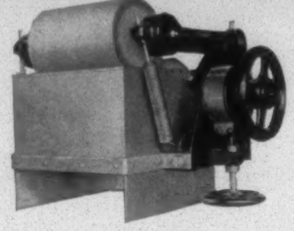
According to statistics of the Carded Yarn Association, covering reports from approximately 1.4 million member spindles, production in the week ended Jan. 7 consisted of 37.5 per cent knitting yarn, 35.2 per cent weaving yarn and 27.3 per cent all others. On Dec. 3, the percentages were 39.6, 33.2 and 27.2 respectively, and for the week ended Jan. 8, last year, they were 36.2. 32.6 and 31.2.

Installment Buying Would Help Soft Goods

Installment purchasing of soft goods may be the answer to the lagging place of textiles in the nation's business, Robert L. Huffines Jr., president of Amerotron Corp., declared Feb. 3 at dedication ceremonies of the new $600,000 residence hall of the Philadelphia (Pa.) Textile Institute. Ceremonies were held at the Germantown Cricket Club, followed by cornerstone laying ceremonies on the campus, ribbon cutting and a tour of the new dormitory.

Mr. Huffines, a member of the college board of trustees, was made an honorary doctor of textiles. Rinaldo A. Lukens, vice-president and treasurer of Continental Mills, was also awarded the degree. Bertrand W. Hayward, president of the college, conferred the degrees.

In his address, Mr. Huffines said that although the national income has grown, per capita consumption of textiles has proportionately decreased. Most of the competition has come from the hard goods industry with its program of consumer credit and emphasis on good styling, advertising and sales promotion. Estimates show that only about 15 per cent of the nation's population has any type of clothing charge accounts, he said. People will readily buy a $100 washing machine or other appliance, on time payment plans, but are reluctant to purchase a dress, suit or other clothing item on time. This might be a major factor in the



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failure of the textile industry and all its branches to participate in full part in the expanding national economy, he charged. He cited the "promotional techniques and dynamic selling" of "hard goods people" as creating the real competition to the textile industry.

In addition to making sure that no credit blocks are in the way, the textile industry should use dynamic styling, maintain high standards of textile quality, and employ every method of advanced merchandising and distribution so that it can recapture its legitimate place in the national economy, he said. Though not another record breaker, 1956 will be a good year, he predicted, citing such factors as the national income, the rate of employment, steel production and even automobile production.

A problem that must be met by the textile industry is the recruitment of bright high school and preparatory school students, he said. Other industries put forth attractive bids for students; backed by high-voltage programs that frequently offer combinations of part-time employment and collegiate instruction. The textile industry must vie with these competitive techniques by offering advantages in the form of equipment, accommodations, instructions, research, development and scholarships, Mr. Huffines declared.

He also urged the broadening of the curriculum within the textile area, citing the fact that today, most large textile companies are now engaged in all of the major branches of textile processing. In addition to covering all phases of technical textile education, textile school graduates need education in other phases such as methods and standards work, cost accounting, financial training, merchandising, personnel, advertising, public and industrial relations, etc. Textile schools have been restricting their training too much to the technical side, he charged. The greatest need in the industry is for well-rounded executives with understanding of all phases of the business. The industry offers virtually limitless opportunities for advancement, as well as financial remuneration, he said. This idea must be put across to the young people or else the textile industry is in jeopardy.

P.T.I. Alumni Hold 55th Annual Meet

The necessity of industry to respond to peacetime support of the military was pointed out to members of the Alumni Association of the Philadelphia Textile Institute by Maj. Gen. R. P. Hollis, at the group's 55th annual banquet Feb. 3 at the Warwick Hotel, Philadelphia, Pa.

General Hollis, commandant of the Industrial College of the Armed Forces in Washington, D. C. and formerly commandant of the Philadelphia Quartermaster Depot was the principal speaker. William A. Popp & Associates, Philadelphia, president of the association, was toastmaster. Bertrand W. Hayward, P.T.I. president, told the alumni that the college would continue to expand and improve its facilities with continued support of the industry. W. Lyle Holmes, president of Archibald Holmes & Co.. and chairman of the board of trustees of P.T.I., was awarded a certificate of merit for his service to the Alumni Association.

General Hollis pointed out that as a contracting party, the federal government is often situated in an unfavorable position, inasmuch as it cannot maintain the type of relationship between buyer and seller which is mutually beneficial to both in civilian trade. Because of statutory limitations which are inevitable in transaction of public business, General Hollis said, a vendor-customer relationship such as exists in the civilian trade cannot be established. Industry has responded, however, to the need for peacetime support, notwithstanding the fact that the major recompense is not in the assurance of repeat business, but in the satisfaction of a job well done for the country, he said.

40% Gain In Carpet Sales Seen By 1965

The carpet and rug industry can look forward to a 40 per cent gain in sales by 1965, according to William L. Duffy, vice-president of Meinhard & Co. Inc., New York City. He said that net sales by 1965 should run in excess of $350,000,000. That compares with 1955 sales of about $254,000,000.

Mr. Duffy explained how his estimate of a 40 per cent gain in sales within the next decade was based on a survey made by the Department of Commerce in 1965. The survey showed that, on the average, a ten per cent jump in U. S. disposable income results in a 14 per cent gain in floor covering expenditures by consumers. Disposable income in 1955, he noted, was running at an annual rate of about $271,700,000,000 and would reach, according to government forecasters, about $380,000,000,000 in 1965, or a gain of 25.4 per cent. This, according to the Commerce Department formula, would mean a 40 per cent gain in carpet and rug expenditures.

Quality Control For Upholstery Fabrics

A joint meeting of representatives from the National Association of Furniture Manufacturers and the Upholstery and Drapery Fabric Manufacturers Association recently studied and discussed a national survey made by N.A.F.M. of furniture manufacturers' production problems with fabrics, and consumer problems with upholstered fabrics. In the opinion of the fabric firms, this survey of the specific causes of both pile and flat fabric complaints, arranged in the order of their importance, marked one of the most forward steps taken by the two industries in the direction of improving both production and practices.

It was agreed that the best possible performance of furniture and fabrics is the mutual responsibility of producers and distributors alike, and that anything practical that can be done to prevent potentially unsatisfactory goods from entering the distribution channel, either because of faulty inspection or of failure to do a reasonable amount of pretesting, has the full support of the leaders in both industries.

It was also decided at the meeting that the fabric industry would arrange for its committee to make a careful examination of all the problems presented and then develop a proposed quality control program including minimum standards that could be instituted and serve as a guide in the hands of the inspection management of every mill. It is expected that this preliminary study and proposal will be completed in time for the next meeting of these two groups, scheduled for April in New York City.

N. C. Textile Mfrs. To Meet Oct. 11-12

The North Carolina Textile Manufacturers Association will hold its 50th anniversary meeting Thursday and Friday, Oct. 11-12, at the Carolina Hotel, Pinehurst, N. C. The association's Cotton Buyers & Classers Division will hold its annual meeting Friday and Saturday, June 8-9, at the Grove Park Inn, Asheville, N. C. Announcement of the meetings was made by Hunter Marshall, secretary-treasurer of N.C.T.M.A.

Controlled Shrinkage Yardage Hits New Peak

Booming business, rapid population growth and marked changes in the age and income distribution of families contributed to an increase in clothing expenditures in many countries during 1955. These broad economic trends, accompanied by specialized factors in textiles, lifted Sanforized yardage to a new peak in the U. S. and in most of the 34 countries where the use of this trademark standard of shrinkage control is licensed.

Promising prospects for continued full employment, higher wages and the widening interest in apparel quality and performance point to a still higher level of clothing demand for 1956, according to Robert M. Dowling, vice-president of Cluett, Peabody & Co. Inc., in charge of the company's Sanforized division.

"In 1955, which marks the twenty-fifth anniversary of the Sanforized trade-mark, the yardage bearing that label will reach a new summit of 2,841,673,000, a gain in both domestic and foreign production of 286,818,000 yards or 11.2 per cent over the 1954 total of 2,554,855.000 yards," reported Mr. Dowling. "Generally favorable business and special factors in the textile and clothing industries, coupled with a record amount of effective advertising and promotion, have brought about this achievement," he said.

"The United States," continued Mr. Dowling, "has the largest woven cotton goods manufacture in the world. This country produces more than twice as much Sanforized yardage as the rest of the world combined. The 86 domestic licensees produced an estimated Sanforized total of 1,926,673,000 yards, a record, and 6.5 per cent above the 1,808,698,274 yards turned out by our licensees in 1954."

Research Promises Special Wool Properties

Research projects which may ultimately produce such long-sought results as permanent mothproofing of wool—perhaps even on the sheep's back—permanent creases for men's trousers and improved dyeing methods were outlined recently by Dr. Gerald Laxer, director of science and technology of The Wool Bureau, in a talk at the annual convention of the International Association of Clothing Designers in Cincinnati, Ohio.

The chemical structure of the wool fiber is so infinitely complex, Dr. Laxer told the convention, that even today's advanced research methods and equipment cannot unlock all its secrets. On these still-hidden secrets, he said, hinge many potential advances in wool textile manufacture and in control of the fiber. "Considering that the wool fiber, which has such a complex cellular structure, is produced by a follicle in the skin of the sheep, it should not be surprising to you that textile fibers other than animal hairs do not possess structures which are in any way similar to the wool fiber," Dr. Laxer emphasized.

He cited the importance of elastic protein chains in insuring the resilience which gives wool fabrics their high insulation value and their ability to shed wrinkles. He also noted the unique paradox which permits wool to absorb moisture vapor up to 30 per cent of its weight without feeling damp, and yet retain a basic tendency to repel liquid water.

Dr. Laxer noted also that wool fabrics are easy to tailor and mould into shape, and that they retain their good looks through long wear. "We all know that the wool garments which you design offer the consumer more than just the

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aesthetic effects of clean lines, good hand and appealing color," he stated. "They also play a functional role in daily life. They are long lasting, maintain their shape well during wear, and provide protection against the elements—cold, rain and even extreme heat." He described the reasons for wool's adaptability to innumerable end-product uses and for its unique performance qualities. Modern research, he declared, is "enhancing the use and usefulness of wool both through more efficient methods of textile manufacture and through modification of the fiber with chemicals so that fabrics with special performance characteristics may be obtained for specific end-use purposes."

Southern Truckers To Raise Rates By 7%

The Southern Motor Carriers Rate Conference has announced that a seven per cent increase in freight rates for shipments between the Southeast and other sections of the country will be posted late in March or early April The conference decided last December to raise motor freight rates, but at that time did not set effective dates. An increase of ten per cent on small shipments between Florida and points in the East was effected Feb. 13. A seven per cent increase on large shipments from that state will be posted March 12. The exact date for the new rates for the entire Southeast depends upon final conference notification of about 1,500 motor carriers operating in the affected areas. Motor carriers do not have to have Interstate Commerce Commission approval of rate changes, but interested shippers may petition for suspension of the rate changes after they are posted.

A.A.T.C.C. Approves Committee Changes

A number of changes in the national organization of the American Association of Textile Chemists & Colorists were approved recently at the 200th meeting of the association's council in New York City. Leonard S. Little, consultant, relinquished chairmanship of the executive committee on research and Charles W. Dorn of J. C. Penney Co. was confirmed as his successor. Another major change was anticipated at the meeting with acceptance of the resignation of Dr. Harold C. Chapin, national secretary, as of Aug. 1.

Mr. Little plans to concentrate on co-ordination of A.A.T.C.C. color and shrinkage tests with the International Organization for Standardization and work on the standardization program during the Perkin Centennial celebration in September.

Charles A. Sylvester of E. I. du Pont de Nemours & Co. Inc. succeeds Charles Dorn as chairman of the technical committee on research with Matthew J. Babey of American Cyanamid Co., Bound Brook, N. J., as vice-chairman, and Jackson A. Woodruff of American Viscose Corp., Marcus Hook, Pa., as secretary. Mr. Sylvester will also be vice-chairman of the executive committee on research, with Richard C. Allison of Geigy Chemical Co. as secretary. Dr. Harold W. Stiegler, director of research of the association, is also a member. Added to this committee were Arthur W. Wachter of American Viscose Corp.; Paul H. Stamm of Dan River Mills, Danville, Va.; and Sherman Converse, Graniteville (S. C.) Co. Continuing members are J. Robert Bonnar, General Dyestuff Co.; W. A. Holst, National Aniline; R. W. Jacoby, Ciba Co.; E. W. Lawrence, Cranston (R. I.) Print Works; and E. A. Leonard, Alexander Smith Inc., Yonkers, N. Y. Walter M. Scott, U. S. Department of Agriculture, Washington, D C., was approved as chairman of the publications committee to succeed Prof. Percival Theel of the Philadelphia Textile Institute. An intersociety relations committee was approved with Henry F. Herrman of General Dyestuff as chairman. Other members are Dr. H. C. Chapin, secretary; W. D. Appel, National Bureau of Standards, Washington; and Messrs. Bonnar, Dorn, Stiegler and Sylvester. Formation of a new archives committee was approved by the council, with Sidney Edelstein of Dexter Chemical Co. as its chairman.

The council heard Dr. L. H. Hance, president of the Institute of Textile Technology, Charlottesville, Va., make a plea for A.A.T.C.C. co-operation in selling the textile industry to high school and college students. Speaking for the National Committee for Textile Education, Dr. Hance pointed out that there were 2,000 jobs and only 500 graduates last June and the situation is likely to continue. Some 40 councillors attended the meeting, held at the Hotel Statler in New York. Raymond W. Jacoby, A.A.T.C.C. president, presided.

Industry Urged To Trust Japan's Quota System

Japanese cotton textile manufacturers and exporters have asked for the American industry's confidence in Japan's willingness and ability to "solve the question of Japanese cotton textile exports to the United States through independent, voluntary measures." At an American press conference in Tokyo, 13 Japanese textile industry executives gathered to explain enforcement of the Japanese quota system. They denied that the quota was a temporary measure designed to forestall American import quota pressure. While they declined to state specifically whether the quota would be continued in 1957, they did maintain that though there may be changes in figures, the principle of the system will remain.

The industry leaders said Japan still looked to the Southeast Asia market principally. American aid may boost purchases of Japanese textiles in these countries and a general economic advance in this area indicates an eventual expanded market on a more permanent basis. They said Japan would like to sell more cottons in the U. S. on a basis of the quantity of raw cotton imported, but asserted the intention of confining exports to those types which "are least injurious to American competitors." Asked if strong American opinions opposing the 150-million-yard quota for 1956 might result in the reduction of that figure, the Japanese executives laughed and declined comment.

New Preshrinkage Process Patented

Sanford L. Cluett and George A. Schreiner of Cluett, Peabody & Co. Inc., Troy, N. Y., have been assigned Patent No. 2,721,370 on an improved process for preshrinking that is designed to give both sides of cloth a smooth "ironed" finish. The patent says the process is especially effective against relaxation or wash shrinkage in cottons but works with other woven fabrics. One surface of the cloth passes over a heated drum and the other over a smooth rubber belt, so that they both acquire a shiny finish as the cloth dries. According to the patent, it takes no longer to apply the finish to both sides as it does to one side only. Patents have been issued in 40 countries and a number of installations have already been made.

Expansion Program Under Way At T.R.I.

Textile Research Institute, Princeton, N. J., has announced plans for expanding its laboratory and physical facilities. The institute's laboratory building, constructed in 1950, will be expanded by the addition of a two-story unit which will provide new laboratories and offices for the publications department which recently moved to Princeton from New York City. A seminar room of the central laboratory building will also be expanded to accommodate 160. Total cost of the expansion project, including equipment, is estimated at $63,000. Completion is expected by late Spring.

December Exports Of Japan Cottons Hit Peak

Japanese exports of cotton cloth to all destinations in December totaled 162,603,000 square yards, the largest single month's shipments of the postwar period, according to the Japanese Ministry of Finance. This compared with 91,090,000 yards shipped in November and 134,898,999 yards in December 1954. Exports of cotton yarn in December totalled 4,151,000 pounds, the largest since February 1952. This compares with the 1,961,000 pounds shipped in November and 3,237,000 pounds in December 1954. Total exports in 1955 included 1,136,931,000 yards of cotton cloth and 26,202,000 pounds of yarn, compared with 1,277,395,000 yards and 29,541,000 pounds in 1954.

The export goal for 1956 is 1,144,000,000 square yards. The principal buyers are expected to be the United States, Pakistan, Indonesia and Hong Kong.

Winding Machinery Being Used To Make Wigs

Standard textile winding machinery has found its way into the wig-making industry. Horsman Dolls Inc. of Trenton, N. J., and New York City, reports that the machinery is playing an important part in its wig department. The company has designed special quills which are fed from regulation four-pound spools of thermoplastic fibers. Fiber is wound onto the quills, which are then heat-treated to set the curl. The quills are used on machinery which roots the hair into the doll's plastic head. The hair is then combed, styled, curled and trimmed. Four different hair styles are offered—poodle cut, pony tail, shorty and curly top. The color fast hair can be combed, curled and washed, it is said. Horsman first designed the quills for its own use, but they have been adopted in various forms throughout the industry.

The International Rayon and Synthetic Fibers Committee, with headquarters in Paris, France, is currently sponsoring a mobile exhibition on the Continent of men's wear fabrics and garments. Over 500 samples of woven and knitted fabrics and 250 garments and articles containing one or more of every known commercially-available man-made fiber are included in the exhibit. The material and garments have been assembled from 14 countries. Practically all of the American fiber and yarn producers have co-operated in supplying piecegoods and wearing apparel as well as J. P. Stevens & Co. Inc., Pepperell Mfg. Co., Star Woolen Co., J. C. Penny, McGregor Sportswear, Erlanger Blumgart & Co., Cantor-Greenspan and the Alligator Co. The tour started Feb. 3 and will visit 23 principal cities in Italy, Austria, Germany, Belgium, Netherlands, Denmark, Sweden, Finland, Norway and France before closing in July.

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Cotton Spindles At 133% Capacity In December

Cotton system spinning spindles operated at 133.3 per cent of capacity during December on a two-shift, 80-hour week basis, the Census Bureau of the Department of Commerce reports. This compared with 122.5 per cent in December 1954, and 143 per cent in November 1955. There were 22,219,000 cotton system spinning spindles in place on Dec. 31, of which 19,440,000 were consuming cotton, 1,548,000 were consuming other than cotton, and 1,231,000 were reported idle. Total cotton system spinning spindle hours reported for December amounted to 11,848 million, an average of 473.9 million hours per working day, based on 25 days.

Bell Urges Import Quota Legislation

At the recent annual meeting of The Association of Cotton Textile Merchants in New York City, W. Ray Bell, president of the association, warned that even more widespread losses of markets to Japanese goods confront the cotton textile industry unless Congress enacts legislation establishing import quotas against low-cost textile and apparel imports. Mr. Bell told the meeting that the rejection by Agriculture Secretary Benson of a petition to provide the quotas under Section 22, Agricultural Adjustment Act, was the final blow to hopes of relief from administrative agencies. The rejection of the petition drawn up by the American Cotton Manufacturers Institute was expected, Mr. Bell said, "in the light of prior action in slashing tariffs in 1955 and refusal of the government agencies to concern themselves with the most serious problem which has confronted this country in the years since World War II." Now, he said, it is up to Congress to decide whether the welfare of the American farmer, hundreds of textile communities and great parts of the garment industry are to be considered expendable.

Excise Tax On Textile Mill Products

Rep. W. R. Poage (D., Tex.) has introduced a bill in the House of Representatives that would require a new $315 million-per-year Federal excise tax on domestic and imported textile mill products, excluding woolen and worsted fabrics. Mr. Poage reports that his self-financing plan for direct payment to cotton growers, to lower prices for raw cotton by about $22.50 per bale for mills, and to improve cotton's competitive position with rayon and other synthetics, would cost about $315 million a year. By imposing the excise tax, to be added to the manufacturers' or importers' sales price, Mr. Poage said enough new taxes could be raised to provide the funds "needed for the direct payments to bring the cotton producers' returns to 90 per cent of parity," even though government price support levels for raw cotton are dropped to 75 per cent.

The text of the bill introduced by Mr. Poage follows:

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sion of domestic and world cotton markets, and provide an equitable competitive position for the United States cotton textile industry, by establishing the support level of American upland cotton at 75 per centum of parity and providing for compliance payments to cooperators, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that Title I of the Agricultural Act of 1949, as amended, is further amended by adding the following new section:

"Sec. 102. Notwithstanding the provisions of Section 101 (B), the level of price support for American upland cotton shall be 75 per centum of the parity price therefor. In order to encourage compliance with cotton acreage allotments and marketing quotas, the Secretary, utilizing the facilities and funds of the Commodity Credit Corp., is hereby authorized and directed to make payments to cooperators equivalent to the difference between the national average support price or the average market price received by producers, whichever is higher, and 90 per centum of the parity price for cotton. The Secretary may determine the rate or rates of payment annually or periodically, and nationally or in such areas, as he deems advisable. No payment with respect to any crop of cotton shall be made under authority of this section—(1) in excess of $10,000 to any co-operator, or (2) in the aggregate of all such payments in excess of an amount equivalent to the estimated revenues from excises on manufactured textiles pursuant to the Revenue Act of 1954, as amended, for the fiscal year in which such crop is harvested."

A.Y.D. May Include Man-Made Yarn Producers

At a closed meeting at the Harvard Club in New York, Jan. 26, the Association of Yarn Distributors discussed a plan to make producers and distributors of man-made yarns part of the association. The proposal has been under study by an association committee for the past six months. Man-made yarn producers, spinners and agents expressed, in a survey, an interest in becoming part of the association. The association establishes quality standards, credit systems and arbitrates differences of opinion from within the membership. The fundamental purpose of the association is to provide mutual protection to buyer and seller.

U. S. Imports Set Record In 1955

The United States bought more goods abroad last year than ever before, according to the U. S. Commerce Department. In a preliminary estimate of December imports, the department said approximately $11.4 billion worth of goods were imported during the year. That topped the $10.2 billion of 1954 and the former record of $11 billion set in 1951. For December alone, imports totaled $1 billion, down slightly from the $1.1 billion of November, but above the $942 million of December 1954.

A bale of cotton picked by slaves during the Civil War is still in good condition. The bale, harvested in 1862, has been stored at the Federal Compress and Warehouse Co. at West Point, Miss., since 1890. The cotton in the bale was raised in Clay County, Mississippi, and the lint was separated from the seed by hand. The fiber shows no signs of deterioration. The bale is one of the oldest in existence.

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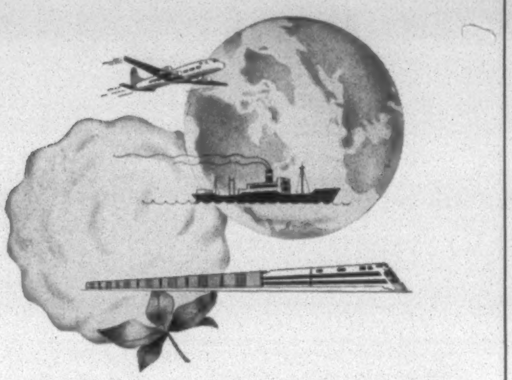

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POSITION WANTED by I. C. S. graduate as overseer or second hand in spinning department. 25 years experience in spinning department, with 8 years as supervisor; 43 years of age; high school education; good references; sober and hard worker. Write to "Spinner," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

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Before Closing Down

PERSONAL NEWS

Richard T. Chatham Jr. and Haddon S. Kirk Jr. have been named vice-presidents of Chatham Mfg. Co., Elkin, N. C. Mr. Chatham is a general vice-president and, among his other duties, will continue in charge of the company's automobile upholstery manufacturing division. Mr. Kirk, who has been in charge of the company's New York sales office, will be in charge of blanket sales. Mr. Kirk was also named a member of the board of directors. Mr. Chatham has been a director for some time.

In the first annual meeting of Randolph Mills Inc. since the merger of Randolph Mills Inc., Franklinville, N. C., and Locke Cotton Mills Co., Concord, N. C., J. Harper Erwin of Durham, N. C., was named chairman and John W. Clark of Greensboro, N. C., was elected president and treasurer. Other officers include Walter M. Clark, Concord, executive vice-president; Irwin Belk, Charlotte, N. C., vice-president; W. P. Rodgers, Franklinville, secretary; Thorne Clark, Lincolnton, N. C., assistant treasurer; and Mrs. Margaret McAlister, Franklinville, assistant secretary. Directors include J. Harper Erwin, J. Harper Erwin Jr., John W. Clark, Thorne Clark, Irwin Belk, Walter Clark, W. P. Rodgers, Alex D. McLennan, Atlanta, Ga., and J. W. Abernethy, Newton, N. C.

Horace L. Pratt Jr., superintendent of the Ottaray Mill of Monarch Mills, Union, S. C., has been promoted to manager of the plant, and L. C. Ellis, superintendent of the Monarch Plant, has been named manager of that unit. . . . William D. McBee has been promoted from assistant superintendent to superintendent of the Monarch Plant. . . . J. K. Shannon has been promoted from industrial engineer of the Monarch Plant to technical superintendent. . . . Effective March 1, J. W. Green, personnel director of Monarch Mills, will become personnel manager of Plant No. 1, Excelsior Mills, Rutherfordton, N. C.; Cowan Mill, Cotwool Mfg. Corp., Lewiston, Me.; and Farnsworth Mill, Cotwool Mfg. Corp., Lisbon Centre, Me. All the plants are units of Deering, Milliken Co. Mr. Green, who will make his headquarters in Union, will be succeeded as personnel director of Monarch by J. D. Callahan.

H. D. Whitener has been elected vice-president and general manager of Rex Mills Inc., Ranlo, N. C. As general manager, he succeeds Alfred S. Robinson, who continues as treasurer. . . . A. A. Hobbs of Charlotte, N. C., was also elected a vice-president. Mr. Hobbs has been with the company about a year.

Jules Witten, formerly vice-president of Botany Cottons Inc., Gastonia, N. C., has been named vice-president of Groves Thread Co. Inc., Gastonia, effective March 1. Mr. Witten was formerly with Threads Inc., Gastonia, where he was assistant to the president. He left Threads Inc. in 1944 to join Gastonia Combed Yarn Corp., now Botany Cottons Inc.

E. G. McIver Jr., assistant manager of the Durham, N. C., plants of Erwin Mills Inc., has been named assistant to the vice-president. A native of Durham, Mr. McIver joined Erwin in 1936. For the past three years he has served as assistant manager of the Durham plants. Succeeding him in this position is Jesse A. Boyce, superintendent of the Panola Plant, The Abney Mills, Greenwood, S. C. Mr. Bryce became affiliated with Abney in 1950. After working in various capacities, he was named superintendent of Panola in 1951. . . . Clyde C. Davis, superintendent of Abney's Grendel Plant, Greenwood, has been transferred to Panola to succeed Mr. Boyce. Roy M. Bayne has been promoted from assistant superintendent to superintendent at Grendel to succeed Mr. Davis. Mr. Davis has been with Abney since 1944, when he became assistant overseer of spinning at Grendel. He was made general overseer of spinning in 1945 and was promoted to assistant superintendent in 1952. Mr. Bayne has been employed by Abney since 1952, when he became overseer of weaving at Grendel. Prior to that he had been with Judson Mills and Victor-Monaghan Mills, Greenville, S. C.

MILL NEWS

LEXINGTON, N. C.—Dacotah Cotton Mills Inc., here, has announced plans for a modernization program to cost an estimated $300,000. Orders have been placed with Whitin Machine Works for 24 Superflex spinning frames for the warp and changeovers for 20 filling frames. The new spinning frames will be replacements. New frames and changeovers will have the new center suspension. Deliveries are scheduled for mid-May and completion about Aug. 1.

NEWBERRY, S. C.—Newberry Mills Inc. has purchased 35 warp spinning frames from American Rieter Co. Inc., Arlington, N. J., as part of its current expansion program. The frames contain more than 13,000 spindles and cost about $500,000. The units are described as the Model G-3, high draft cotton frames, equipped with pneumatic pressure, center suspension. They also have Pneumafil and umbrella creels. Delivery is slated to start by the end of this year, with the installation scheduled for completion by early 1957.

HENDERSON, N. C.—J. D. Cooper, president of Harriet and Henderson Cotton Mills, here, has announced that operations will begin in the J. D. Corp. sometime this Summer. The plant, which will produce backing yarn, will begin receiving equipment around March 1. A separate corporation, J. D. Corp. is operating as a subsidiary of Harriet and Henderson in building the plant at a cost of $140,000. J. D. Corp. has taken a ten-year lease, with option to buy after five years. The building, containing 30,000 square feet of floor space, is almost completed.

WINCHESTER, VA.—A four-man committee representing stockholders of The Virginia Woolen Co., here, has contracted to sell 75 per cent of the company's outstanding stock to United Merchants & Manufacturers Inc. at $8 a share. United Merchants has agreed to purchase on the same terms all additional stock which may be deposited with the committee before March 15. There are about 160,000 common shares of Virginia Woolen outstanding. A company spokesman said United plans continued operation of Virginia Woolen at present locations. They will operate as part of the A. D. Julliard Division of U. M. & M.

NEW YORK, N. Y.—Burlington Industries Inc. has acquired 100 per cent ownership of Hess, Goldsmith & Co. Inc., major weaver of fiber glass. Included in the properties are fiber glass throwing and weaving plants at Wilkes-Barre, Pa., and Taylor, Pa., a glass tape weaving plant in Philadelphia, Pa., throwing plants in Wilkes-Barre and Plymouth, Pa., a subsidiary, Hess, Goldsmith of California Inc. at Pomona, Cal., which is engaged in tricot knitting for underwear, uniforms and fitted sheets, and Glass Fabrics Finishing Corp., Cedar Grove, N. J., a wholly-owned subsidiary engaged in the finishing of glass cloth. The Hess, Goldsmith organization numbers over 1,500 employees. Hess, Goldsmith will retain its corporate identity and will continue to function as a separate company.

OBITUARIES

Clifford W. Birch, 63, president of Birch Bros. Inc., Somerville, Mass., manufacturer of textile finishing machinery, died Feb. 12. Survivors include his widow, a daughter, a son, six grandchildren and two brothers.

DeForest Lott, 57, chief development engineer of the Textileather Division of The General Tire & Rubber Co., Toledo, Ohio, died Feb. 11. With Textileather for 33 years, Mr. Lott was widely known throughout the coated fabrics industry. He is survived by his widow, a son and a brother.

Charles Thompson, 55, group leader in the dyeing and finishing division of the research and development department of The Chemstrand Corp., died Feb. 14 at Decatur, Ala. A native of Bern, Switzerland, Mr. Thompson once was chemist-colorist in charge of the New York sales division laboratory for the Burlington Mills Corp. His widow and a son survive.

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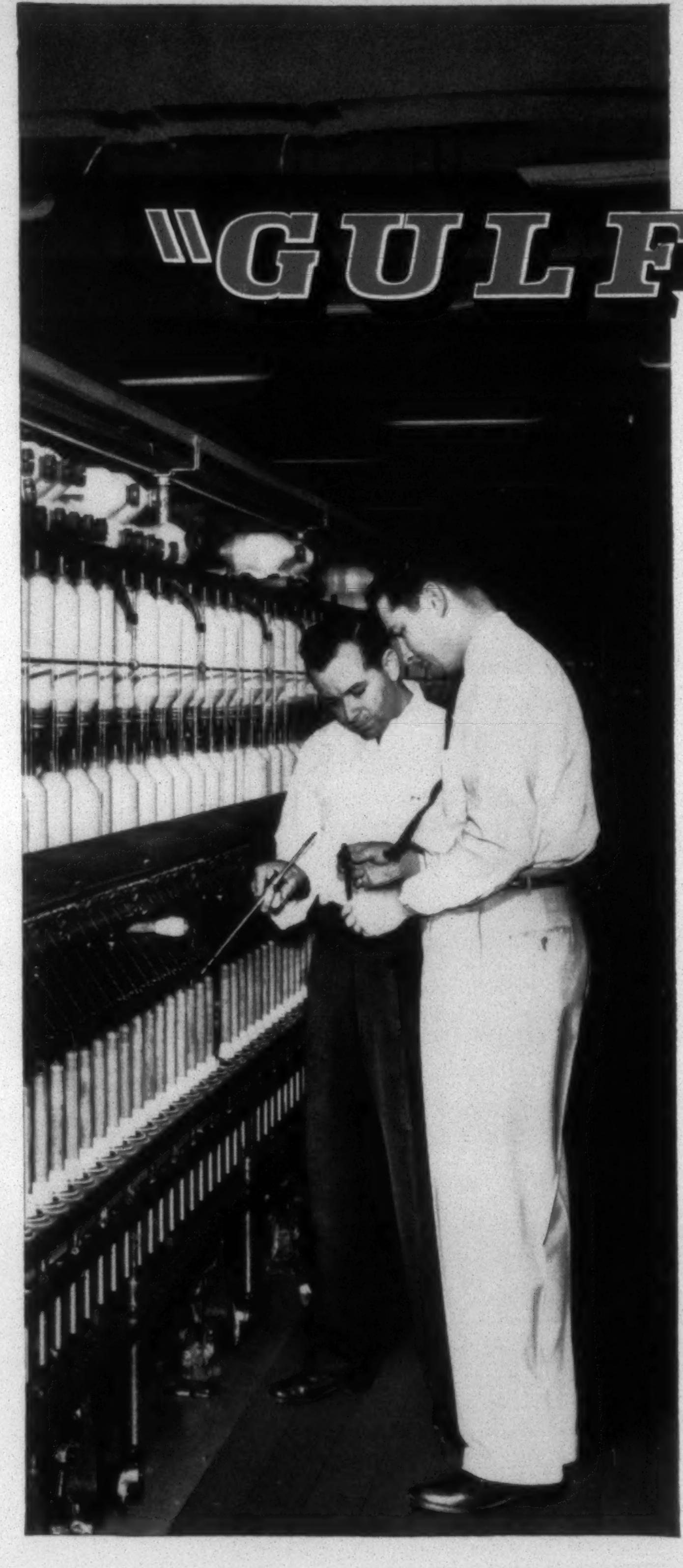

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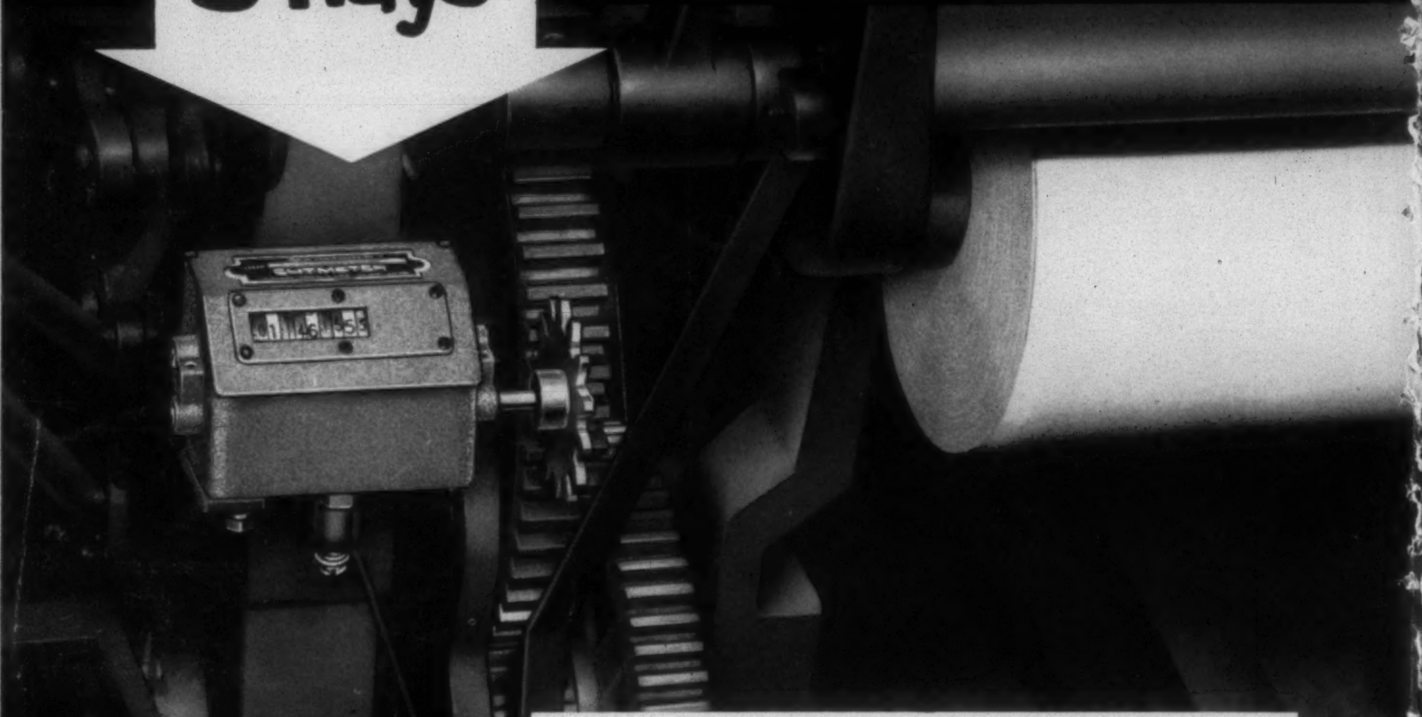

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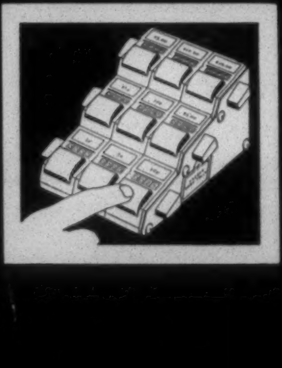

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